TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

No. ~~548~~ 147

ALBERT L. MOWRY, APPELLANT,

vs.

ASA WHITNEY. 14 Wallace

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF PENNSYLVANIA.

FILED DECEMBER 7, 1870.

SUPREME COURT OF THE UNITED STATES.

No. 348.

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vs.

ASA WHITNEY.

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a ALBERT L. MOWRY
vs.
ASA WHITNEY. } In equity.

Pleas before the honorable the judges of the circuit court of the United States in and for the eastern district of Pennsylvania, in the third circuit of April sessions, 1870, No. 13.

Inter alia, it is thus contained:

Be it remembered that, on the seventh day of April, in the year of our Lord one thousand eight hundred and seventy, Theodore Cuyler and Charles B. Collier, solicitors of said court, come into our said court here and file the bill of complaint of Albert L. Mowry against Asa Whitney; which said bill of complaint is in the words and figures following, to wit:

1 U. S. circuit court, eastern district of Pennsylvania.

ALBERT L. MOWRY
vs.
ASA WHITNEY. } In equity.

To the honorable the judges of the circuit court of the United States for the eastern district of Pennsylvania.

Albert L. Mowry, a citizen of the State of New York, and residing in the city of New York, in said State, brings this his bill of complaint against Asa Whitney, a citizen of the State of Pensylvania, residing at Philadelphia, in said State of Pennsylvania.

And thereupon your orator complains and says:

That, on the 25th day of April, 1848, letters-patent of the United States of that date, in due form of law, and numbered 5531, were granted and issued to the said Asa Whitney, for a certain alleged new and useful "process for prolonging the time of cooling, in connection with annealing cast-iron railroad-car wheels," whereby there was granted and secured to the said Asa Whitney, his heirs, administrators, and assigns, for the term of fourteen years from and after the date of said letters-patent, the full and exclusive right and liberty of making, constructing, using,
2 and vending to others to be used, the said invention, a description and specification whereof were annexed to said letters-patent, as will more fully appear by reference thereto, or to a duly authenticated copy thereof ready in court to be produced, and a true copy whereof is hereto annexed, marked A, and made part of this bill.

And your orator further shows unto your honors that, on or about the 22d day of March, A. D. 1862, and prior to the expiration of the term for which the said letters-patent were granted, the said Asa Whitney being desirous of securing an extension of the term thereof for seven years beyond the original term thereof, made application to the Commissioner of Patents of the United States for such extension of the said letters-patent, and such proceedings were thereupon had in the matter of such application, that on the 7th day of April, A. D. 1862, the said Commissioner of Patents did extend and renew the aforesaid letters-patent for the further term of seven years, from and after the expiration of the term for which the same were originally granted; that is to say, seven years from and after the 25th day of April, A. D. 1862, by making a certificate of such extension upon the said letters-patent,

in due form of law, as will more fully appear by reference to said letters-patent, and to said certificate of extension endorsed thereon, or to a duly authenticated copy of such certificate, ready in court to be produced, as your honors may direct, and a true copy whereof is hereto annexed, marked B, and made part of this bill.

And your orator further shows unto your honors that the said Asa Whitney, in the matter of his said application for extension of his said letters-patent, did not comply with the acts of Congress then in force, and regulating proceedings in matters of extension of letters-patent, by filing a true account of loss and profit accruing to him, said Whitney, from and by reason of his said invention, but procured the said extension of his said letters-patent by means of fraud and deceit practiced by him, the said Whitney, on the Commissioner of Patents and on the Government of the United States.

3 And your orator further shows unto your honors that, being required by the acts of Congress, in force at the time of his said application for extension, and governing and regulating such proceedings, to furnish to the Commissioner of Patents "a statement in writing, under oath, of the ascertained value of the invention and of his receipts and expenditures, sufficiently in detail to exhibit a true and faithful account of loss and profit in any manner accruing to him, from and by reason of said invention," he, the said Asa Whitney, did furnish to the said Commissioner of Patents, in connection with his said application for extension, a statement in writing, duly signed and sworn to by him, said Whitney, on the 4th day of February, A. D. 1862, before Charles E. Pancoast, then a duly commissioned and qualified alderman in and for the city of Philadelphia, in said State of Pennsylvania, and authorized by law to administer such oath, which said statement purported to be a true and faithful statement and account of loss and profit in any manner accruing to him, said Whitney, from and by reason of said invention, as will more fully appear by reference to said statement and account, or to a duly authenticated copy thereof, ready in court to be produced, and a true copy whereof is hereto annexed, marked C, and made part of this bill.

And your orator, on information and belief, avers that the said statement and account of the said Whitney, so as aforesaid sworn to and filed by him, in the matter of his said application for an extension of his said letters-patent, was not such true and faithful statement and account of loss and profit as required by the said act of Congress, and as it purported to be, but that the same was, on the contrary, untrue, false, deceptive, and fraudulent, whereby the said Asa Whitney wilfully and fraudulently concealed and suppressed from the said Commissioner of Patents the fact of the receipt by him, said Witney, of enormous gains and profits from his said patented invention, and which had been received and enjoyed by him during the original term of his said letters-patent, and prior to the making by him of his said statement and account.

4 And your orator further shows unto your honors that, in the said statement and account of the said Whitney, so as aforesaid filed and exhibited by him, in the matter of his said application for extension, he, the said Whitney, represented and set forth that he had only derived and received during the period embraced in said statement and account, and as gains and profits from his said invention the sum of $38,346 00, being the value of iron saved by said Whitney, by his said invention in the manufacture of 255,640 wheels, and that his expenses for developing the said improvement had amounted to the sum

of $52,970 31, and that his expenditures had, consequently, exceeded his profits by the sum of $14,624 31.

And your orator further shows unto your honors that the application of the said Asa Whitney for said extension was granted and allowed, and said certificate of extension endorsed on the said letters-patent by the said Commissioner of Patents, upon the supposed truth, on the part of said Commissioner, of the said statement and account of the said Whitney, and under the belief, on the part of said Commissioner of Patents, that the said Whitney had not been sufficiently remunerated from his said invention during the original term thereof, and that he, said Whitney, had actually lost money thereby; whereas, in fact and in truth, the said statement and account was untrue, false, deceptive, and fraudulent, and the said Commissioner of Patents was misled, defrauded, and deceived thereby, and the said Whitney had been adequately and amply remunerated from his said patent and invention, for his time, ingenuity and expense bestowed upon the same, and the introduction thereof into use.

And your orator annexes hereto a true copy of the report of the examiner of the Patent Office in the matter of said application, marked D, and makes the same a part of this bill.

And your orator, on information and belief, avers that, prior to the making by said Asa Whitney of his statement and account of loss and profit, and to his oath thereto, and prior to his said application
5 for an extension of his said letters-patent, and subsequent to the original grant to him of the said letters-patent, and during the original term thereof, he, the said Whitney, had received great gains and profits from his said letters-patent and invention, to wit, the sum of $237,494 00 from the firm of A. Whitney & Sons, of the said city of Philadelphia, for the right and privilege granted to them by said Asa Whitney, of using the said patented invention; the sum of $2,000 or thereabouts from the firm of Knap & Totten, of the city of Pittsburg, in said State of Pennsylvania, as license fees or royalties for the use by them of the said patented invention; the sum of $255,494, as an increased market value of 255,494 wheels due to the employment in their manufacture of said patented invention, and being the number of wheels made and sold by said Whitney, under his said letters-patent, and during the original term thereof. And that of said several sums of money the said Asa Whitney did receive to his own exclusive use and enjoyment, and as profit and gain from said letters-patent and invention, the sum of $251,591 32, making together with said sum of $38,346 00 admitted in said account of loss and profit, a total gain and profit of $289,937 32 and a net or clear gain over and above the amount of expenditures incurred by said Whitney in and about his said invention of $236,967 01, instead of a loss of $14,624 31 as represented and set forth by the said Whitney, in his said statement and account of loss and profit; which fact, that is to say, the receipt of said gains and profits, amounting to said sum of $251,591 32, as aforesaid, the said Whitney wil'fully and fraudulently, and with the purpose and intent of deceiving, defrauding, and misleading the said Commissioner of Patents, and of inducing him to believe that he, said Whitney, had not obtained adequate remuneration from his said invention, concealed and suppressed by purposely and intentionally omitting the same from his (said Whitney's) said sworn statement and account of loss and profit.

And your orator further shows unto your honors that the said sums amounting to $251,591 32, ought to have been included in the
6 said statement and account of loss and profit of him, the said

Whitney, so as aforesaid furnished to the said Commissioner of Patents, but that no part thereof was so included, nor was the fact of the receipt by said Whitney in any manner made known to the said Commissioner of Patents.

And your orator further shows that the said letters-patent of the said Whitney ought not to have been extended, for the reason that said Whitney, during the original term thereof, had been adequately remunerated for his said invention; that such extension was contrary to the public interest, and as your orator is informed and believes, the same would not have been granted or allowed had not the said Commissioner of Patents been misled, defrauded, and deceived by the fraudulent suppression and concealment of the said Whitney in the matter of his said application for extension as aforesaid.

And your orator further shows unto your honors that, on the 7th day of May, A. D. 1861, letters-patent of the United States, in due form of law, were issued to him, your orator, for a certain new and improved mode of annealing car wheels theretofore invented by your orator, whereby there was granted and secured to your orator, his heirs, executors, administrators, and assigns, for the term of seventeen years from the 7th day of May, A. D. 1861, the full and exclusive right of making, using, and vending to others to be used the said improvements, a true and correct copy of which said letters-patent is hereto attached, marked E, and made part of this bill.

And your orator further shows unto your honors that, subsequent to the grant to him of the said letters-patent, to wit, in the year 1861, he, your orator, did engage in the manufacture and annealing of car wheels, pursuant to and in accordance with his said letters-patent, and in the full faith and belief that he was fully protected in such manufacture by his said letters-patent, and that he did not thereby infringe upon the rights of any person; that such manufacture by your orator was conducted in the city of Cincinnati, in the State of Ohio. And your orator further shows unto your honors, that thereupon, to wit, on the 7 day of March, A. D. 1866, the said Asa Whitney did commence a suit in the circuit court of the United States in and for the southern district of Ohio, against your orator, for an alleged infringement by your orator in the said manufacture and process as conducted and employed by him, of the said letters-patent of the said Whitney, so granted to him on the said 25th day of April, A. D. 1848, and extended to him on the said 7th day of April, A. D. 1862, as aforesaid.

And your orator further shows unto your honors that, on the fifth day of April, A. D. 1867, an interlocutory decree was entered in the said cause against your orator, finding that the said process employed by him as aforesaid, and so as aforesaid patented to him, was an infringement upon the said letters-patent of the said Asa Whitney, so extended to him, said Whitney, as aforesaid, and it was thereupon and by said decree ordered that the defendant in said cause, your orator, be enjoined from the further practice and employment of the process so theretofore practiced by him as aforesaid; and said cause was thereupon, by the order of said court, referred to a special master in chancery to take and report to the court an account of the gains and profits derived by your orator, defendant in said cause, from his said business and manufacture as aforesaid.

And your orator further shows unto your honors that, in the course of the investigation had by the said special master in said cause under the said order of reference, and through and by means of the testimony

of the said Asa Whitney given therein, and the production of transcripts of his, said Whitney's, books of account, the fact of the receipt by the said Whitney of the said great gains and profits, and of the fraud and suppression practiced by him in the matter of his said application for extension, became known for the first time to your orator. And your orator further shows that the said cause is still pending and undetermined in the said circuit court of the United States for the southern district of Ohio; and that the said Asa Whitney is still prosecuting and threatens and intends to continue the prosecution thereof,
8 thereby subjecting your orator to great damage and expense in and about the defence thereof.

And your orator further shows unto your honors that, as he is informed and believes, and therefore submits, the said letters-patent of the said Asa Whitney as extended, and the granting and allowance of said extension by said Commissioner of Patents, was and is, by reason of the said deceit and fraud, and of the false and fraudulent statement and account of loss and profit of the said Whitney as aforesaid, null and void, and conferred no right or monopoly upon said Whitney as against the public or your orator; and that in equity and good conscience the said letters-patent should be pronounced and decreed as no longer in force or operative from and after the 25th day of April, 1862, that being the limitation of the term of fourteen years, for which said letters-patent were originally granted. But your orator further shows that the said fraudulent acts of the said Whitney in the matter of the procuration of the extension of his said patent, does not appear upon the face of said patent or in the certificate of extension thereof, nor in the said proceedings in the matter of said application for extension, and is only ascertainable without said grant and proceedings. And your orator is informed and believes, and therefore submits that he, your orator, cannot set up said fraud of the said Whitney in the matter of his said application for extension and the consequent invalidity and nullity of said letters-patent, as extended, by way of defence to said suit so being prosecuted by said Whitney against your orator; and that the said. the circuit court of the United States for the southern district of Ohio has not power or jurisdiction to entertain or inquire into said fraud in said cause, or otherwise, or to afford any relief to your orator in the premises.

To the end, therefore, that your orator may have that relief which he can only obtain in a court of equity, and that the said defendant may answer the premises, and, if he can, show why the complainant should not have the *the* relief hereby prayed, may it please your honors
9 to grant an injunction whereby the said defendant, who is complainant in said cause so as aforesaid pending in the circuit court of the United States for the southern district of Ohio, may be perpetually enjoined from further prosecuting the same; and that it may be declared that the said letters-patent so as aforesaid granted to him on the 25th day of April, A. D. 1848, and extended on the 7th day of April, A. D. 1862, were and are void and of no effect from and after the 25th day of April, 1862; that the certificate and allowance of the extension thereof was fraudulently procured, and that the same consequently was void, inoperative, and invalid; and that in the meantime, and until the final hearing of this cause, his counsellors, attorneys, solicitors, officers, or agents may be restrained, by an injunction issuing out of this court, from proceeding further against your orator in the said action commenced against him in the said circuit court of the United States for the southern district of Ohio, for the alleged infringement of the said letters-

patent of said Asa Whitney, as extended; which said cause is numbered 534 on the docket of said court, and that your orator may have such other and further relief in the premises as the nature of the circumstances of this cause may require, and to your honors shall seem meet.

May it please your honors to grant unto your complainant a writ of subpœna directed to the said defendant, Asa Whitney, commanding him to appear and answer unto this bill of complaint, and to perform and abide by such orders and decrees in the premises as to the court shall seem meet and be required by the principles of equity and good conscience, and your orator will ever pray, &c.

ALBERT L. MOWRY.

THEODORE CUYLER,
CHA'S B. COLLIER,
Solicitors for Complainant.

10 UNITED STATES OF AMERICA,
Southern District of New York,
City and County of New York, ss:

On this 2d day of April, 1870, before me personally appeared Albert L. Mowry, the complainant named in the foregoing bill of complaint, who, being by me duly sworn, did depose and say that he has read the foregoing bill of complaint subscribed by him, and knows the contents thereof, and that the same is true of his own knowledge, except as to the matters therein stated on information and belief, and as to those matters he believes it to be true.

Sworn to and subscribed before me this 2d day of April, A. D. 1870.

ALBERT L. MOWRY.

R. E. STILLWELL,
U. S. Commissioner.

Filed April 7, 1870.

(Here follows diagram marked page 10.)

11 No. 5531.

The United States of America to all to whom these letters-patent shall come:

Whereas Asa Whitney, Philadelphia, Pennsylvania, has alleged that he has invented a new and useful improvement in annealing and cooling cast-iron car wheels, which he states has not been known or used before his application, has made oath that he is a citizen of the United States, that he does verily believe that he is the original and first inventor or discoverer of said improvement, and that the same hath not, to the best of his knowledge and belief, been previously known or used; has paid into the Treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose:

These are therefore to grant, according to law, to the said Asa Whitney, his heirs, administrators, or assigns, for the term of fourteen years from the twenty-fifth day of April, one thousand eight hundred and forty-eight, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improve-

12 ment, a description whereof is given in the words of the said Asa Whitney, in the schedule hereunto annexed, and is made part of these presents.

In testimony whereof I have caused these letters to be made patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand at the city of Washington, this twenty-fifth day of April, in the year of our Lord one thousand eight hundred and forty-eight, and of the independence of the United States of America, the seventy-second.

[L. S.] JAMES BUCHANAN,
Secretary of State.

Countersigned and sealed with the seal of the Patent Office.
EDMUND BURKE,
Commissioner of Patents.

The schedule referred in these letters-patent, and making part of the same.

To all whom it may concern:

Be it known that I, Asa Whitney, of the city of Philadelphia, and State of Pennsylvania, have made a new and useful improvement in the process of manufacturing cast-iron railroad wheels, and I do hereby declare that the following is a full and exact description thereof:

My improvement consists in taking railroad wheels from the moulds in which they are ordinarily cast, as soon after being cast as they are sufficiently cool to be strong enough to move with safety, or before 13 they have become so much cooled as to produce any considerable inherent strain between the thin and thick parts, and putting them in this state into a furnace or chamber that has been previously heated to a temperature as high as that of the wheels when taken from the moulds. As soon as they are deposited in this furnace or chamber, the opening through which they have passed is closed, and the temperature of the furnace or chamber and its contents gradually raised to a point a little below that at which fusion commences, when all the avenues to and from the interior are closed, and the whole mass left to cool no faster than the heat it contains permeates through, and radiates from the exterior surface of the materials of which it is composed. By this process, all parts of each wheel are raised to the same temperature, and the heat they contain can only pass off through the medium of the confined atmosphere that intervenes between them and the walls of the furnace or chamber; consequently, the thinnest and thickest parts cool and shrink simultaneously together, which relieves them from all inherent strain whatever when cold.

The annexed drawings will show the form and size of the furnace or chamber which I have used to perform the process above described. Fig. 1, represents a vertical cross-section of the furnace or chamber, and Fig. 2, a horizontal cross section of the same, on the line A B. In the former is shown a pile of wheels as they are placed to be annealed. The cover to the furnace being moveable, is raised when the wheels are put in, and is then closed and covered with earth, to prevent the too rapid escape of the heat. The damper in the flue leading to the chimney is also closed, as is shown in Fig. 2, after the wheels are put into the furnace, and the opening in the lower wall stopped by an iron plate banked with earth, which prevents the escape of the heat in that direction.

The explanations on the drawings sufficiently describe the other parts of the furnace.

To heat this furnace, I have used anthracite coal, it requiring less than one-fourth of a ton to anneal two tons of wheels. The heat
14 required to perform the process may, however, be obtained by the use of any other fuel that may be less expensive at the place where the process is to be performed; or the requisite heat may be taken in a suitable conduit from the furnace in which the metal is melted from which the wheels are made, after it has performed that office, to the chamber in which the annealing process is to be performed. In either case, however, the furnace or chamber must be made of such form, and have such appen lages connected with it, as will enable the operator to control the quantity and intensity of the heat used, by admitting more or less of it into the chamber, and of excluding it entirely.

The advantages resulting from the process of prolonging the cooling and annealing as above described are, that the wheels may be made much stronger, when made of the same weight, than they can be when cast and cooled in the ordinary manner; and railroad wheels, having any form of spokes or disks, connecting the rim and hub, if subjected to this process, will not require their hubs to be cast in sections, and the spaces between the sections subsequently filled with some suitable metal, and wrought bands put on to the hub.

Wheels subjected to this process of cooling and annealing, will be stronger without bands on their hubs, than those of the same weight, cast and cooled in the ordinary way, having the wrought-iron bands on. In this way the original cost is diminished, and the wheels rendered more durable than they would be when made in any of the ways heretofore employed.

I do not claim to be the inventor of annealing castings made of iron or other metal, when done in the ordinary way, nor do I claim to be the inventor of any particular form or kind of furnace, in which to perform the process. But what I do claim as my invention, and desire to secure by letters-patent, is the process of prolonging the time of cooling, in connection with annealing railroad wheels in the manner above described—that is to say, the taking them from the moulds in which they were cast, before they have become so much cooled as to produce such inherent strain on any part as to impair its ultimate strength,
15 and immediately after being thus taken from the moulds, depositing them in a previously heated furnace or chamber, so constructed, of such materials, and subject to such control, that the temperature of all parts of the wheels deposited therein, may be raised to the same point (say a little below that at which fusion commences,) when they are allowed to cool so fast and no faster, than is necessary for every part of each wheel to cool and shrink simultaneously together, and no one part before another.

A. WHITNEY.

Witnesses:
GEO. WHITNEY.
W. H. TALCOTT.

Whereas, upon the petition of Asa Whitney, of Philadelphia, Pa., for the extension of the within patent, granted to him on the 25th day of April, 1848, the undersigned, in accordance with the 18th section of the act of Congress, approved the 4th day of July, 1836, entitled "An act to promote the progress of the useful arts, and to repeal all acts and parts of acts heretofore made for that purpose," and the act approved the 27th day of May, 1848, entitled "An act to provide additional exam-

iners in the Patent Office, and for other purposes," did on this 7th day of April, 1862, decide that said patent ought to be extended:

Now therefore I, David P. Holloway, Commissioner of Patents, by virtue of the power vested in me by said acts of Congress. do renew and extend the said patent, and certify that the same is hereby extended for the term of seven years from and after the expiration of the first term, viz: from the 25th day of April, 1862, which certificate be-
16 ing duly entered of record, in the Patent Office, the said patent has now the same effect in law as though the same had been originally granted for the term of twenty-one years.

In testimony whereof I have caused the seal of the Patent Office to be hereunto affixed this 7th day of April, 1862, and of the independence of the United States the eighty-sixth.

[SEAL.] D. P. HOLLOWAY,
Commissioner.

17 *C, D—Report J. W. Jayne, examiner, pp.* 17–23.—*Statement & account of Asa Whitney, pp.* 23–50.

The United States Patent Office.

To all persons to whom these presents shall come, greeting:

This is to certify that the annexed is a true copy from the files of this office.

In testimony whereof I, Elisha Foote, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this seventeenth day of December, in the year of our Lord one thousand eight hundred and sixty-eight, and of the independence of the United States the ninety-third.

[L. S.] ELISHA FOOTE.

In the matter of the application of Asa Whitney for an extension of letters-patent, granted April 25, 1848.

STATE OF PENNSYLVANIA,
City of Philadelphia:

HENRY SNYDER, being duly sworn, doth depose and say that he is now and has been in the employ of Asa Whitney as foreman of the foundry, ever since he began to make car wheels in 1847, and that the wheel on which I have written my name and marked A, is a car wheel made by me while in his employ, by casting in the ordinary way, and suffered to cool without the use of Mr. Whitney's patented process.

The wheel marked B, and with my name, was made in precisely the same way, at the same time and of the same composition of metal, but was cooled by Mr. Whitney's patented process.

The fracture in the spokes of the former wheel was caused by
18 the contraction of the metal after the rim had chilled. The holes bored in the spokes of Exhibit B, was bored after the wheel had cooled, for the purpose of showing that there was no strain on the spokes.

HENRY SNYDER.

Sworn to and signed before me, this twenty-second day of March, 1862.

CHA'S E. PANCOAST,
Alderman, Ex Officio Justice of the Peace.

In the matter of the application of Asa Whitney for an extension of letters-patent, granted April 25, 1848.

I certify that the within deposition of Henry Snyder was taken, sealed up, and directed to the Commissioner of Patents by me, this 22d day of March, 1862.

CHAS. E. PANCOAST,
Alderman, Ex Officio Justice of the Peace.

Rec'd and filed March 24, 1862. E. W. W. G.

In the matter of the application of Asa Whitney for an extension of letters-patent, granted to him on the 27th day of April, 1847, for an improvement in casting car wheels.

Argument on behalf of applicant.

This invention consists in taking the car wheel from the mould in which it is cast, as soon as it can be handled. It is then put into an oven (constructed so as to heat a number of wheels at one time, and to heat them evenly.) The temperature of the oven is then raised to almost the fusing point, then the oven is tightly closed and suffered to cool slowly. The object is to produce the uniform cooling of the wheels. (For a full description of the process and the evils which it was intended to, and which it has, fully overcome, see the essay filed at a former day in this case.)

19 1. Is the invention novel? The novelty of the invention, during the whole course of the patent, has never been questioned.

2. Is the invention useful? The wheels made by this process are far superior to any others; they are more durable, running 100,000 miles, or double the distance of other wheels.

The inventor, in his statement, states that he would guarantee them, if properly used, to run this number of miles. J. Dutton Steele, for fifteen years superintendent, engineer, or vice-president of the Reading Railroad Company, testifies that "the statistics of wheels on the Reading Railroad during a period of ten years, shows that the wheels manufactured under the patented process of said Whitney, will run over 100,000 miles, while those manufactured without his process, run about 50,000 miles." John Murphy, a practical car-builder in this city, for over twenty-nine years, testifies: "I regard Mr. Whitney's wheel, as manufactured by his patented process, as far superior to any other wheel." "His wheels are stronger, and at the same time less liable to break, and will run considerably longer than other wheels. I know of some wheels of Mr. Whitney's now in use, that have been running for some eight or ten years." The wheel is also much lighter—Mr. Murphy testifying that it is, on the average, ten pounds lighter.

Is the invention valuable and important to the public?

In addition to the value and importance arising from the increased safety and durability of the wheel, there is a great saving to the public from its lightness. The same road can transport an increased amount of freight, equal to the difference between the weight of Whitney's wheels and other wheels. It will be seen by annexed calculation, marked A, that an actual saving of $1,252,636 has been effected

20 on the wheels already manufactured by Whitney, but there are 988,313 wheels in the United States (see deposition of William Helme, and the saving therefore would be $3,843,076 (vide calculation marked B.) These calculations are made on the assumption that the

car wheels run 100,000 miles, as it is clear from the testimony, they do. No money value to the public, however, can be placed upon this wheel, so far as it tends to prevent accidents and loss of life upon railroads.

Has the inventor been adequately remunerated for his time and expense in originating and perfecting it?

To successfully carry out this invention and to develop it fully, numerous and costly furnaces or chambers were to be erected. These continually required repairs, enlargement, and sometimes alterations, to carry out the process more perfectly. The applicant's account verified by his own oath, and proven by the depositions of William Sellers and Charles Taylor, shows that he has expended $52,970 31.

Selling his wheel for the same price as other manufacturers, he has saved on the 255,640 wheels, made by him, an average of 10 lbs. of metal per wheel, or 2,556,400 lbs., which, at 1½ cents per pound, would be a saving of $38,348.

His account then would be:

Expenses	$52,970
Profit or saving	38,346
Deficit	14,624

Thus, the applicant has failed in being reimbursed, even for the money actually expended by him, and this, when the benefits he has conferred upon the public, amounts to over three million dollars.

21 Has the inventor used due diligence in introducing his invention into general use?

Immediately upon the grant of his patent he commenced the manufacture of wheels by his process. Rival manufacturers immediately opposed their introduction, by circulating the report that by the process by which Mr. Whitney's wheels were manufactured, the chilled or outer portion of the wheel would be softened, (vide Dep. John Murphy.) Mr. Murphy further testifies: "This was not true, in fact, as I know by long continued use of these wheels, but the industrious circulation of this report, by numerous rival manufacturers, created a prejudice against the wheel which required some years to remove, and which, in fact, with some companies has been removed only within the last two years. * * * A difficulty which prevented the general introduction of Mr. Whitney's wheel at an earlier date, was, that railroad companies could not, without a long comparative trial of his wheels, with other wheels, be practically satisfied with the durability of the wheels. He could not, by an exhibition of his wheel, or an inspection of its exterior, demonstrate the advantage due to his mode of manufacture, and it was only by demonstrating on the few roads which he could induce in trying after the lapse of some years of comparative trial, that they were so far superior to other wheels in strength and durability."

An extension of this patent is therefore very respectfully requested.

Very respectfully, your obedient servant,

A. WHITNEY.

PHILADELPHIA, *April* 1, 1862.

22 A.

Number of wheels manufactured by Whitney, 255,640.
Saving of 10 lbs. per wheel, 2,556,400 lbs., and as each wheel would run 100,000 miles, it would equal a freight

of 255,640,000,000 lbs., carried one mile, or 127,820,000 tons of 2,000 lbs. This at one cent per ton per mile would equal	$1,278,200
From this deduct the decreased value of worn-out wheels, owing to the less quantity of metal in them, 255,640 wheels, 10 lbs. less, 2,556,400 lbs., at one cent	25,564
Saving	$1,252,636

B.

Number of wheels in the United States, 988,383. Saving of 10 lbs. per wheel, = 9,883,830 lbs., and as each wheel would run 100,000 miles, it would equal an increased freight of 988,383,000,000 lbs. for one mile, or 494,191,500 tons of lbs. 2,000. This at one cent per ton, =	$4,941,915 00
From this deduct the decreased value of worn-out wheels, owing to the less quantity of metal in them, 988,383 wheels, 10 lbs. less, = 9,883,830 lbs., at 1 cent, =	98,838,30
	$3,843,073 70

In the matter of the application of Asa Whitney, for an extension of letters-patent, for improvement in annealing and casting car wheels, granted April 25, 1848.

GEORGE WHITNEY, being duly sworn, doth depose and say:

I am the son of the applicant above named. I know that prior to the invention above mentioned, in the process of making car wheels, my father was in a large locomotive establishment, and had very ex-
23 tensive railroad connections and acquaintance. That since obtaining his letters-patent, his entire attention was devoted to the manufacture and introduction of these wheels; the wheels were advertised extensively; specimen wheels were sent gratuitously to any road that desired them for trial; the attempt was also made to induce others to go into the manufacture of them, and for this purpose, licenses were granted to a firm in Pittsburgh, and another in Indiana, but these parties did not give the attention to the subject which it demanded; they made wheels of imperfect character, and were injuring the reputation of the Whitney wheel, after a short trial.

The result of this experience was, that licenses were apt to injure the name of the wheel more than any profit could be gained from them, and it was found to be the only safe course to endeavor to carry on the work under his own direction. Besides sending circulars and advertising these wheels, some competent person has been engaged nearly all the time in making an annual or semi-annual tour throughout the country to extend the sale of these wheels.

I have no interest in the extended letters-patent now applied for by Asa Whitney.

GEORGE WHITNEY.

Sworn and subscribed before me this fourth day of April, 1862.

CHARLES E. PANCOAST,
Alderman, Ex Officio Justice of the Peace.

In the matter of the application of Asa Whitney, for an extension of letters-patent, granted April 25, 1848.

WILLIAM HELME, being duly sworn, doth depose and say:

I reside in Philadelphia, and have been engaged in locomotive building, and have been for many years familiar with railroad matters.

For several months past, I have been traveling over the princi-
24 pal roads, west; I have prepared an abstract from the statement contained in the American Railroad Journal, showing the number of miles of railroad in use in the United States, and the amount of rolling-stock at present in use, making an aggregate of 998,383 wheels. This calculation was made from the American Railroad Journal, which is considered among railroad men as reliable authority; the statement therein contained, being made out every year from official returns from the several companies. The rolling-stock is given for most of the roads; where it is not given, I filled the omission by taking the average per mile of rolling-stock on all the roads, whose rolling-stock was given. In one case I supplied the omission from my own direct knowledge, that of the Bellefonte and Snow Shoe Railroad Company.

The statement used by me is found on pages 193 to 196, inclusive, of the American Railroad Journal, filed by me with this deposition.

WILLIAM HELME.

Sworn and subscribed before me this 22d day of March, A. D. 1862.

JAMES McCAHAN,
Alderman and J. P.

25 *A statement showing the number of railroads in operation in the United States, and the length of each, with the number of engines and cars in use, taken from the "American Railroad Journal" of March 15th, 1862.*

Names of companies.	Miles of main lines.	Miles of branch lines.	No. of engines.	No. of passenger cars.	No. of freight cars.
Alabama and Florida	65.0				
Alabama and Mississippi	30.3	.....	2	2	19
Alabama and Tennessee Rivers	109.6	.....	11	9	102
Mobile and Girard	57.0				
Mobile and Ohio	469.3	13.5	40	28	502
Montgomery and West Point	88.5	28.4	23	14	283
Memphis and Little Rock	38.5				
Sacramento Valley	22.5				
Danbury and Norwalk	23.8	.....	4	4	43
Hartford, Provid. and Fishkill	122.4	.....	16	20	241
Housatonic	74.0	.....	11	11	240
Naugatuck	57.0	.....	11	7	179
N. Haven, N. Lond. & Stoningt'n	62.0	.....	6	12	29
New Haven and Northampton	46.0	8.8			
New London and Northern	66.0	.....	7	7	111
New York and New Haven	61.3	1.0	31	74	368
Norwich and Worcester	66.0	.....	14	17	282
Delaware	84.3				
New Castle and Frenchtown	16.2				
Florida Road	154.2				
Florida and Alabama	32.0	.....	3	1	6
Florida, Atlantic and Gulf Cent	59.9				
Pensacola and Georgia	100.0	3.9			
Atlanta and West Point	86.7	.....	16	7	124
Atlantic and Gulf Main Line	92.6				
Augusta and Savannah	53.0				
Brunswick and Florida	43.5				
Cent. Georgia R. R. & Bank'g Co	191.0	.....	53	62	697
Georgia Railroad and Bank'g Co	171.0	61.0			
Macon and Western	102.5	.....	19	16	171
Muscogee	50.0	.....	7	2	107

A statement showing the number of railroads, &c.—Continued.

	Names of companies.	Miles of main lines.	Miles of branch lines.	No. of engines.	No. of passenger cars.	No. of freight cars.
26	Savannah, Albany and Gulf	68.1	.....	3	4	33
	South Western	106.1	100.8	18	22	201
	Western and Atlantic	138.0	.....	52	24	705
	Chicago, Alton and St. Louis	220.0	.....	38	36	647
	Chicago, Burlington and Quincy	138.0	.....	62	31	990
	Chicago and Milwaukee	45.0	.....	6	14	101
	Chicago and North Western	194.0				
	Chicago and Rock Island	181.8	.....	58	57	960
	Fox River Valley	33.2				
	Galena and Chicago Union	121.0	138.5	60	63	1,369
	Great Western, (Ill.)	175.0				
	Illinois Central	252.0	.....	113	96	2,305
	Ohio and Mississippi	148.0				
	Peoria and Bureau Valley	46.6				
	Peoria and Oquawka	186.0				
	Quincy and Chicago	100.0				
	Rock Island Bridge	1.0				
	Terre Haute, Alton and St. Louis	168.5	39.8	31	30	424
	Cincinnati and Chicago	108.0				
	Cincinnati, Peru and Chicago	29.0				
	Evansville and Crawfordsville	109.0				
	Indiana Central	72.4	.....	19	15	374
	Indianapolis and Cincinnati	98.8	20.2	23	19	313
	Indiana, Pittsburg and Cleveland	84.0				
	Jeffersonville	78.0	.....	15	16	119
	La Fayette and Indianapolis	64.0				
	Madison and Indianapolis	86.0	49.0	23		
	Louisville, New Albany, and Chi	288.0				
	Peru and Indianapolis	74.0				
	Terre Haute and Richmond	73.0	.....	18	25	298
	Burlington and Missouri	75.5				
	Chicago, Iowa and Nebraska	86.0				
	Dubuque and Pacific	50.1	.....	8	8	86
	Keok., F't Des Moines and Minn	38.5	.....	4	4	64
	Keok., M't Pleasant and Musc	11.2				
	Mississippi and Missouri	55.0	52.6			
	Covington and Lexington	80.0				
	Lexington and Big Sandy	20.0				
	Lexington and Danville	13.0				
	Lexington, Frankfort and Louisv	94.1	.....	13	10	230
	Louisville and Nashville	185.0	84.0	30	20	455
	Maysville and Lexington	18.8				
	Clinton and Port Hudson	22.0				
	Mexican Gulf	27.0				
27	N. O., Opelousas and Gt. Western	80.0	.....	12	12	216
	N. O., Jackson and Gt. Northern	206.0	.....	45	37	513
	Vicksburg, Shreveport & Texas	53.7				
	Androscoggin	36.5	.....	4	4	21
	Androscoggin and Kennebec	55.0	.....	9	10	128
	Atlantic and St. Lawrence	149.0	.....	41	17	349
	Bangor, Oldtown, and Milford	12.5	.....	4	3	45
	Kennebec and Portland	63.0	9.5	12	11	120
	Penobscot and Kennebec	54.7	.....	4	10	93
	Portland, Saco and Portsmouth	51.3	.....	11	13	118
	Somerset and Kennebec	37.0				
	York and Cumberland	18.5				
	Baltimore and Ohio	279.6	7.2	235	124	3,272
	Washington Branch	30.0	.....	7	33	167
	Northern Central	138.0	4.0	41	31	1,723
	Berkshire, (Mass.)	21.2	.....	6	4	80
	Boston and Lowell	26.8	1.8	21	26	566
	Boston and Maine	74.3	8.8	32	54	606
	Boston and Providence	47.0	7.0	22	27	210
	Boston and Worcester	44.6	24.0	30	59	295
	Cape Cod Branch	46.1	1.1	7	10	149
	Connecticut River	50.0	2.4	12	13	331
	Eastern	44.1	30.5	28	47	429
	Essex	19.9	1.3			
	Fitchburg	50.9	16.8	29	18	655
	Fitchburg and Worcester	14.0	2.4	3	3	37
	Hampshire and Hampden	24.9				
	Lowell and Lawrence	12.4	.....	2	6	27
	Nashua and Lowell	14.6	.....	12	19	324
	New Bedford and Taunton	20.2	1.6	7	13	146
	Newburyport	26.9	.....	5	2	44
	New York and Boston Air Line	8.6			6	
	Old Colony and Fall River	79.5	7.8	27	4	358

A statement showing the number of railroads, &c.—Continued.

Names of companies.	Miles of main lines.	Miles of branch lines.	No. of engines.	No. of passenger cars.	No. of freight cars.
Pittsfield and N. Adams	18.6	.....	1	2	1
Providence and Worcester	43.4	1.0	12	18	308
Salem and Lowell	16.9	.....	3	3	1
South Shore	11.5	.....	2	7	17
Stockbridge and Pittsfield	21.9				
Taunton Branch	11.1	0.6	7	18	144
Troy and Greenfield	6.1				
Vermont and Massachusetts	69.0	8.0	11	18	192
Western, (incl. Alb. & W. S. &c.)	156.1	17.3	72	59	1,183
Worcester and Nashua	45.7	.....	10	18	149
Bay De Noquet and Marquette	17.3	.....	2	1	100
28 Chicago, Det. & Can. G. T. Junct.	57.0				
Detroit and Milwaukee	188.0				
Michigan Central	284.8	.....	98	85	1,334
Michigan Southern and N. Inda	246.0	293.0	83	102	971
Miss. Central	236.0	.....	25	22	336
Miss. and Tennessee	71.4	.....	7	4	41
Southern Miss	83.2				
Cairo and Fulton	37.0				
Hannibal and St. Joseph	206.8				
North Missouri	168.8	.....	22	19	391
Pacific	189.0	.....	28	26	375
South Western Branch Mo	77.0				
St. Louis and Iron Mountain	86.5	3.6	16	13	222
Ashuelot	23.1				
Boston, Concord and Montreal	93.5	.....	14	10	232
Cheshire	53.6	.....	18	11	289
Cocheco	28.1	.....	4	4	26
Concord	34.5	.....	21	22	494
Concord and Portsmouth	46.8				
Contoocook River	14.6				
Eastern (New Hampsh're)	16.5				
Great Falls and Conway	20.5	.....	3	2	27
Manchester and Lawrence	26.8				
Merrimack and Con. Rivers	58.7	.....	2	4	80
Northern New Hampshire	69.2	12.8	22	13	372
Sullivan	24.7	.....	5	2	50
Belvidere and Delaware	64.2				
Camden and Amboy	63.9	32.3			
Camden and Atlantic	60.2				
Central of New Jersey	64.0	.....	30	21	256
Long Dock	2.9				
Morris and Essex	53.0	.....	11	15	91
New Jersey	33.8				
Northern New Jersey	21.3	.....	2	6	17
Patterson and Hudson	13.5				
Patterson and Ramapo	15.0				
Warren	18.7				
West Jersey	13.0				
Albany and Susquehanna	00.0				
Albany and Vermont	32.9	.....	5	12	53
Albany and West Stockbridge	38.3				
Black River and Utica	34.9	.....	4	6	39
Blossburg and Corning	14.8				
Brooklyn Central and Jamaica	14.5	.....	.....	28	
29 Brooklyn City	24.7	.....	.....	158	
Buffalo New York and Erie	142.0	.....	28	32	402
Buffalo and State Line	68.3	.....	28	34	327
Cayuga and Susquehanna	34.6				
Chemung	17.4				
Elmira, Jefferson and Canada	46.8	.....	10	8	83
Hudson and Boston	17.3				
Hudson River	144.0	.....	58	107	554
Long Island	84.0	2.5	17	40	126
New York Central	297.8	258.1	211	277	3,171
New York and Erie	446.0	19.0	219	194	2,763
New York and Harlem	138.0	2.1	33	93	576
New York and Flushing	8.0	.....	2	8	8
Niagara Bridge and Canada	99.0				
Northern (Ogdensburg)	118.0	3.8	28	14	578
Oswego and Syracuse	35.9	.....	7	6	46
Pottsdam and Watertown	75.4	.....	6	4	33
Rensselaer and Saratoga	25.2	.....	5	13	70
Rochester and Genesee Valley	18.5				
Sackett's Harbor and Rome, N. Y.	18.0				
Saratoga and Schenectady	21.0	.....	2	2	11

A statement showing the number of railroads, &c.—Continued.

Names of companies.	Miles of main lines.	Miles of branch lines.	No. of engines.	No. of passenger cars.	No. of freight cars.
Saratoga and Whitehall	40.8	6.7	9	11	84
Staten Island	13.0	.....	2	6	6
Syracuse and Binghampton	81.3	.....	13	12	117
Troy and Boston	31.9	.....	10	9	123
Troy and Greenbush	6.0				
Troy and Union	2.1				
Watertown and Rome	96.7	.....	17	11	288
Atlantic and North Carolina	94.9				
North Carolina	223.0				
Raleigh and Gaston	97.0				
Wilmington and Manchester	161.5	15.0	23	18	182
Wilmington and Weldon	161.9	.....	24	32	144
Western North Carolina	81.0	3.0			
Atlantic and Great Western					
Bellefontaine and Indiana	118.2	.....	17	12	208
Central Ohio	137.0	.....	41	39	508
Cincinnati, Hamilton, and Dayton	60.3	.....	22	28	432
Cincinnati and Indianapolis Junc	30.0				
Cin., Wilmington, and Zanesville	131.8	.....	16	10	332
Cleveland, Col. and Cincinnati	135.4	5.8	22	31	495
Cleveland and Mahoning	67.0	.....	12	11	251
Cleveland, Paynesville and Astal	95.4	1.2	30	42	470
Cleveland and Pittsburgh	101.0	102.5	42		
29½ Cleveland and Toledo	109.2	79.4	32	45	409
Cleveland, Zanesvile and Cin	61.4	.....	5	6	99
Columbus and Indianapolis	72.0	.....	6	9	103
Columbus and Xenia	54.5				
Dayton and Michigan	144.0				
Dayton, Xenia and Belpre	16.0	.....	3	2	21
Eaton and Hamilton	45.0	.....	6	5	72
Fremont and Indiana	36.0				
Greenville and Miami	32.0	.....	6	5	68
Iron	13.0	.....	1	2	50
Little Miami	83.5	.....	39	32	602
Marietta and Cincinnati	173.8	21.6	33	26	523
Ohio and Mississippi	192.3	.....	48	34	628
Pittsburgh, Columbus and Cin	117.0	8.0	17	16	238
Sandusky, Dayton and Cin	153.9	52.0	40	26	391
Sandusky, Mansfield and Newark	116.0	9.0	13	20	206
Scioto and Hocking Valley	55.6	.....	7	3	64
Springfield and Columbus	19.5				
Springfield, Mt. Vern. and Pittsb	49.8	.....	5	6	62
Toledo, Wabash and Western	243.0	.....	35	18	580
Allegheny Valley	45.0	.....	4	6	97
Beaver Meadow	20.5	.....	15	2	1,005
Catawissa	64.5	.....	22	14	300
Cumberland Valley	52.5	.....	11	8	66
Del., Lackawanna and Western	110.8	2.3	74	17	4,422
East Pennsylvania	36.3	.....	3	3	
Erie and Northeast	18.6				
Harrisburg and Lancaster	36.9	18.6			
Hempfield	32.3	.....	3	2	17
Huntingdon and Broad Top	30.9	11.3	6	3	1,000
Lackawanna and Bloomsburg	68.9	.....	10	6	318
Lehigh Valley	45.7	.....	15	6	
Little Schuylkill	28.0	5.0	9		
Lehigh Coal and Navigation Co	20.0				
Mine Hill and Schuylkill Haven	24.5	74.8	28	2	3,026
North Pennsylvania	55.6	10.1	17	20	504
Pennsylvania Central	331.1	28.1	205	124	2,668
Phil'a and Baltimore Central	12.0	.....	1	1	1
Phil'a, Germant'n and Norristown	17.0	7.0	16		
Philadelphia and Reading	147.4	4.0	145	64	5,696
Philadelphia and Trenton	28.0				
Phil'a, Wilmington and Baltimore	98.0	6.0	30	93	521
Pittsburgh and Connellsville	48.9	.....	7	7	65
Pittsburgh, Ft. Wayne & Chicago	467.5	.....	104	80	1,261
30 Pittsburgh and Steubenville	31.0				
Schuylkill and Susquehanna	54.0	.....	7	7	26
Schuylkill Valley	9.2	15.3			
Shamokin Valley and Pottsville	28.0	1.2	4	1	445
Sunbury and Erie	148.0				
Tioga	29.6	6.5	8	3	127
West Chester and Philadelphia	26.4	.....	4	11	9
Williamsport and Elmira	78.0	.....	16	8	125
Bellefonte and Snow Shoe	24.0	.....	1	1	75
N. Y., Providence and Boston	50.0	.....	12	17	103

A statement showing the number of railroads, &c.—Continued.

Names of companies.	Miles of main lines.	Miles of branch lines.	No. of engines.	No. of passenger cars.	No. of freight cars.
Providence, Warren and Bristol	13.6	.....	.....	3	5
Blue Ridge	13.2	1.5	2	.....	26
Charlestown and Savannah	54.9	.....	4	3	21
Charlotte and South Carolina	109.6	.....	13	9	176
Cheraw and Darlington	40.3				
Greenville and Columbus	143.3	21.2			
Kings Mountain	22.5				
Laurens	32.0				
North Eastern	102.0				
South Carolina	136.0	106.0	62	59	790
Spartansburg and Union	25.1				
Central Southern	47.6				
East Tennessee and Georgia	30.0	.....	12	10	171
East Tennessee and Virginia	140.0	.....	10	10	128
Memphis and Charleston	271.6	19.4	43	39	667
Memphis and Ohio	271.6	16.0	9	5	242
Memp., Clarksv'le and Louisv'le	100.0				
Mississippi and Tennessee	59.0	.....	7	5	119
Mississippi Central and Tennessee	47.4	.....	4	5	46
McMinnville and Manchester	34.2	.....	12	2	81
Nashville and Chat'anooga	149.7	44.0	39	17	319
Tennessee and Alabama	45.8	.....	5	5	32
Winchester and Alabama	30.0				
Buffalo, Bayou Braz. and Colorado	32.0				
Galv'ton, Houston, and Henderson	56.0				
Houston and Brazoria	50.0	.....	2	1	40
Houston Texas Central	70.0	.....	7	5	124
San Antonia and Mexican Gulf	25.0				
Southern Pacific	28.0				
Connecticut and Passumpsic	90.7	.....	8	8	183
Rutland and Burlington	119.6	.....	26	18	600
Rutland and Washington	62.0	.....	10	6	174
Vermont Central	119.0	.....	42	28	885
Vermont and Canada	47.0				
31 Vermont Valley	23.7	.....	3	4	43
Western Vermont	54.0	10.5			
Alex., Loudon and Hampshire	41.3				
Manassas Gap	77.8	8.9	9	5	221
Norfolk and Petersburg	79.2	.....	5		75
North Western Virginia	103.5	.....	8		
Orange and Alexandria	88.3	68.4	16	16	175
Petersburg and Lynchburg	123.3	10.1	19	13	279
Petersburg and Roanoke	59.2	21.3	14	17	131
Richmond and Danville	140.5	2.7	28	30	418
Rich'd, Fredericksb'g, and Potomac	75.1	.....	11	10	196
Richmond and Petersburg	22.2	2.8	10	7	188
Richmond and York River	23.7	.....	2	.....	23
Seaboard and Roanoke	80.0	.....	10	11	161
Virginia Central	178.2	.....	27	19	228
Virginia and Tennessee	204.7	9.4	39	27	374
Winchester and Potomac	32.0	.....	5	4	49
Kenosha and Rockford	55.0	.....	3	2	40
Milwaukee and Minnesota	199.9				
Milwaukee and Chicago	40.0	.....	5	10	75
Milwaukee and Horicon	42.0				
Milwaukee and Prairie du Chien	191.9	42.5			
Milwaukee, Watert'n and Baraboo	50.0				
Racine Mississippi	104.0	.....	8	7	321
Wisconsin Central	10.0				
Totals	24,368.0	2,260.9	4,742	4,424	80,801

32 Total number of miles of finished railroad in use in the United States, as reported to the "American Railroad Journal" 26,628.9

Number of miles of the above, for which neither cars or engines are reported 7,531.9

Number of miles reported, with cars and engines ..... 19,097.

Cars and engines reported as being operated on the above	89,967
Average number of wheels to each	8.
Total number of wheels	719,736

If the 7,531 miles of road reported without the cars and engines, is similarly stocked to the above, they would have 278,647 wheels in use, which, added to the above number, would make a total of 993,383 wheels as being in use throughout the United States on the various railroads comprised in the above report.

In the matter of the application of Asa Whitney, for the extension of patent for improvement in annealing and cooling cast-iron car wheels, granted to him the 25th day of April, A. D. 1848, for the additional term of seven years from and after the day whereon said patent will expire.

SIR: I have the honor to submit, in the above case, the following report:

1st. That the invention claimed in the said patent was new at the period of its date.

2d. That it is useful.

3d. That it is valuable and important to the public, particularly to those holding pecuniary interests in railroads, or who are in any wise interested in the rates of transportation charged by railroad companies.

33 4th. The statement of the applicant, to the truth of which he has made oath, shows that he commenced the manufacture of car wheels, by his new process, in the year 1847. Satisfied as he was, by practice, of the soundness of the theory upon which his improvement was based, he soon found by experience also, that his annealing chambers were defective in several important particulars, which induced him, in 1849, to construct a new set of chambers, together with other necessary adjuncts and appurtenances. These new chambers were better than those previously in use, but still were not satisfactory; they were continued in use, however, until 1853, when in view, partly of the increased demand for the wheels, and the increased facility required for their manufacture, as well as the defects existing in his present works, it was resolved to remove to a different locality, and to erect an entirely new manufactory.

Each renewed construction of annealing chambers were found to be superior to and more satisfactory than the preceding ones; the third set, however, were still liable to some objections; and not being satisfied to rest short of the fullest and most perfect development of his invention, the applicant again, in 1857, removed the chambers then in use, and erected others, a fourth set, improved in construction, as well as of greater capacity.

These chambers have operated to the entire satisfaction of the applicant; no attempt has been made to improve thereon, nor does the applicant now see in what manner they can be improved.

In his statement of the cost of these several improvements, the applicant has included the cost, not only of the annealing chambers themselves, but also the fixtures necessarily connected therewith; as, for instance, the chimney-stack, hoisting cranes for removing the heated

wheels to and from the chambers, together with 10 per cent. of the entire cost of the buildings and ground used for the purpose.

34 From the detailed statement, it appears that the total expense of the applicant in developing his invention, was as follows:

First set of chambers, including, also, the expense incurred for procuring patent	$2,344 37
Second set of chambers, with crane, and 10 per cent. of cost of buildings and ground	7,679 77
Third set of chambers, with chimney stack, crane, &c	9,929 73
Fourth set of chambers, with two hydraulic cranes, force-pumps, &c	28,200 96
To which is added 10 per cent. for superintendent, &c	4,815 48
Total expenditures	$52,970 31

In the statement of the profits derived thus far from his invention, the applicant premises by saying, in substance, that other things being equal, there is no difference in the cost per pound of his wheels, and those made by others in the ordinary mode of casting, but that his process of annealing enables him to produce as good a wheel as others, with a less weight of metal, and that in the saving of iron thus effected, equal, on an average, to about 10 lbs. for each wheel, consists the advantage resulting from his patent over his competitors in business.

The total number of wheels manufactured under his patent, up to the 1st January, 1862, is stated at 255,640; allowing for a saving of 10 lbs. of iron for each wheel, and the value of pig iron assumed to be 1½ c. per lb., which is probably a reasonable estimate, the profits accruing to the applicant from his invention may be stated thus:

255,640 wheels, at 10 lbs. each, 2,556,400 lbs., at 1½ c	$38,346 00
Excess of expenses over and above profits	14,624 31

From an economical point of view, as regards the public, the applicant exhibits a statement, wherein any *success* in the weight
35 of the rolling stock of a railroad is likened to and assumed to be, in fact, to that extent, *and* excess of freight carried over the road; or, conversely, that by reducing the weight of the rolling stock, its strength and efficiency otherwise not being impaired thereby, below the average standard of other rolling stock in use, and allowing each wheel to traverse 50,000 miles of rail before being worn out, the saving effected by those using his 255,640 wheels, is equivalent to 63,910,000 tons carried one mile, and which, at 1 cent per ton per mile, equals $639,100. The value of the old wheels, however, will be less than that of an equal number of worn out wheels of other manufacturers, by the difference in their weight, viz, 10 lbs. for each wheel, or, in the aggregate, less by 200,536,400 lbs. Assuming, therefore, the value of the worn out wheels to be 1 cent per lb., the difference in the value between the 255,640 wheels of his manufacture and an equal number of those of other manufacturers, will be equal to a sum of $25,564. Deducting this amount from the $639,100, and there thus results a saving to the public a sum equal to $613,536, or $2 40 for each wheel.

If we assume the premises of the applicant to be correct, viz, that a wheel manufactured by his process will wear as long and do as much service as that made in the ordinary way, which shall weigh 10 lbs. more than his, the above deduction as to the pecuniary saving effected by the use of his wheels *are* undoubtedly fair and legitimate. But the

applicant further avers that, while, in his opinion, the average wear of wheels made by other manufacturers does not exceed 50,000 miles, he is enabled, by statistics in his possession, to state that the durability of his wheels actually *exceed* 100,000 miles, and that, with fair usage, he does not hesitate to guarantee that amount of service.

The superior durability is accounted for by saying that, by the use of his improved process of annealing, the wheels may be made of iron of a higher temper, and becoming thereby more deeply chilled, they will necessarily wear longer.

36 It is also in evidence that, owing to defects in the first, second, and third sets of annealing chambers, it not unfrequently happened that some of the wheels would, in the process of annealing, be more or less injured, owing to the impossibility of insuring to each wheel in the chamber an equal degree of heat; that while some of them would be insufficiently heated, others would be heated to excess, so as to destroy partially or wholly the crystalline texture, the necessary condition of its hardness, which has been produced in the tread of the wheel, by the action of the chill into which the metal had been cast.

Some of the wheels of this latter character, by inadvertence, passing inspection, applied to use and resulting, as might have been anticipated, in failure, gave seemingly a warrant to his competitors in business, for condemning, not only the wheels themselves, but also the process adopted in their manufacture. These unfortunate circumstances and the arguments based upon them, were extensively used by his competitors, and greatly to the inconvenience and loss of the applicant, during more than one-half the term for which his patent had been granted.

Another circumstance, which contributed in a similar manner and to a considerable extent in weakening the confidence of the public and thus injuriously affecting the business of the applicant, was the unfortunate and perhaps injudicious use of the word "annealing" in the denomination of his invention. The meaning usually and properly attached to this word is that of softening and making malleable. The idea, therefore, of retaining the hardness induced by the chill into the tread by subsequent annealing, seemed opposed to common experience and contrary to fact.

However reasonable this argument may appear in its application to the then known and practised modes of annealing cast iron, it is not believed to be valid against the improved process practised by the

37 applicant, provided only, that certain conditions be maintained and proper care be observed in conducting the process.

It is also observed that of the 255,640 wheels manufactured by the applicant, under his patent, 157,690, or 62 per cent. of the whole, were produced during the six years ending January 1, 1862. Granting, as we should, that the consumption of car wheels has been greater during this period than any corresponding period of previous time, there still remains a reasonable supposition that the great improvement effected in the construction of the chambers, and the gradual disabusing the public mind as to the effect of the annealing process, as practised by the applicant upon the chilled tread of his cast-iron wheels, contributed, in no small degree, to the increased demand for wheels thus made.

To briefly recapitulate, the applicant, it appears, has expended, in the development of his invention, the sum of	$52,970 31
Amount received by him as profits	38,346 00
Excess of expenditure over profits	$14,624 31

For so large an outlay of capital, and the annoyance and inconvenience attending the several reconstructions of his works, as well as the mental labor involved, the profits, as above stated, do not seem to be an adequate remuneration.

5th. It does not seem, from the evidence, that any special effort has been made by the applicant to introduce his invention into general use, otherwise than by the introduction of the wheels of his own manufacture, nor that the invention is practised by any other party than himself.

It is not unreasonable to suppose that the strong doubt which, until recently, has prevailed as to the value of the invention, and the large expenditure of capital which would be required to render the in-
38 vention available, may have rendered any effort to effect its general or even partial introduction, otherwise than as stated—abortive.

Respectfully, yours,

J. W. JAYNE,
First Assistant Engineer.

Hon. D. P. HOLLOWAY,
Commissioner.

PATENT OFFICE, *March* 17, 1862.

U. S. PATENT OFFICE,
April 7, 1862.

The within report is approved and confirmed, and the patent is ordered to be extended.

D. P. HOLLOWAY,
Commissioner.

Recorded vol. 9, p. 166.

In the matter of the application of Asa Whitney for an extension of letters-patent, granted April 25th, 1848.

Statement of Asa Whitney.

Prior to my patent for annealing or prolonging the cooling of cast-iron car wheels, I had experimented in a comparatively small way, as to the best means to be employed to accomplish the object desired.

Copies of the drawings of the first furnaces or chambers used for that purpose are attached to the patent. The trials made in the manner described in the schedule attached to the patent were satisfactory, so far as the soundness of the theory upon which the improvement rested was concerned, but practically it was shown that the furnaces or chambers were defective, rendering great care necessary in their
39 attendance. There was found to be too much heat applied to the two or three lower wheels in the pile, and not enough to the top ones; those at and near the bottom were exposed to a temperature so high, or so near the point of fusion, as to destroy or impair the chill, and the temperature of those at and near the top was not raised high enough to relieve them from the strain acquired, while the object desired was accomplished on the residue of the pile, those wheels being relieved from all inherent strain, and the chill not being injuriously effected by the heat they had been exposed to.

Having thus satisfied myself as to the soundness of the theory upon which the value of the improvement was based, it remained to be determined what was the best practical means to be employed for accomplishing the object.

In the spring of 1847, in company with my son George, we hired a small foundry in this city, in which, early in the following June, we commenced to prepare for casting and treating wheels in the manner described in the schedule attached to the patent referred to. There were three of these annealing chambers erected; the wheels remained in each of them three days; consequently only one could be emptied and refilled daily.

We continued to use them, however, without material alteration, until September, 1849; they were not only defective in the particulars before noted, but they lacked capacity for more than twelve wheels per day, while the demand for them began to exceed that number.

In August, 1849, we began to prepare for remedying the defects alluded to—want of uniformity of effect on the wheels treated, and want of capacity. There was not room enough in the foundry we were occupying to make the changes, without lengthening the building. It also became necessary to erect another chimney and crane, as well as to make several other alterations in the building and its appendages to adapt them to the increased number of wheels we contemplated
40 making daily. This work was completed so far as to enable us to commence using it, in September, 1849. The changes made gave us the capacity to make and anneal 48 wheels per day, and with proper attention, we had much less difficulty in applying and controlling the heat generated, more uniformly to all the wheels in this second set of annealing chambers than in the first.

The demand for our wheels continued to increase, so that during the next year, 1850, our sales began to be limited again by our capacity to make. The place we were occupying not being susceptible of further economical enlargement, we began to canvass the matter of erecting new works, specially adapted to casting and treating car wheels in the manner we had thus far developed. With us, there was no longer any doubt but that cast-iron wheels, made and treated in this way, were safer and more durable than those made and treated in any other way, besides being a little lighter than any others; hence we decided to prepare improved facilities for making them in a much larger way than we had heretofore done.

In March, 1851, we commenced building entire new works on a lot previously purchased, 200 by 400. The designed capacity of these works was 150 wheels per day, leaving room on the lot and otherwise so arranged, as to admit of further enlargement, should the demand require it. No pains or expense were spared to make these works as perfect and as well adapted to the manufacture and fitting up car wheels, as our previous experience enabled us to employ in designing and erecting them.

Early in May, 1853, the new works were so far completed as to enable us to commence operations on them. The increased capacity they furnished was more than was required, until 1855; the greatly increased demand of that year began in October and continued through 1856, to the fall of 1857, the orders being larger, in several instances, than
41 we could execute within the time desired; this induced us to carry out our original design of providing for making at least 200 wheels per day.

The buildings for this increased capacity were commenced early in 1856, and completed during that year. Notwithstanding the third set of annealing chambers (completed in 1853) answered the purpose intended satisfactorily, so far as the treatment of the wheels was concerned, yet they were found to be more expensive to maintain, and not as convenient to attend, as we believed others could be made, on a

somewhat different plan and arrangement. We therefore removed them, and erected in their stead a fourth set, having the increased capacity desired, which we have since found to be a very decided improvement upon their predecessors. This fourth set of annealing chambers was not completed until the fall of 1857, and with them we erected hydraulic cranes, which have added very much to the facility and economy in depositing wheels in, and taking them out of, the annealing chambers; considerable alterations and improvements have been made in these cranes since their first erection, and they are now worked satisfactorily.

No improvement has been made or attempted on the fourth set of annealing chambers since their completion in 1857, nor do we now see in what respect they can be improved.

The accompanying statement, marked A, will show the cost in detail, under each head of expenditure, in bringing this annealing process to its present state of perfection.

The accompanying tracings, marked 1, 2, 3, 4, are taken from the original drawings of each of the four sets of annealing chambers, numbered in the order in which they were constructed. These tracings, with the preceding remarks, will sufficiently explain the progressive improvement in those structures.

42 The following statement shows the number of wheels made by us each year, commencing in 1847, up to January 1, 1862, all of which have been subjected to the process of annealing or protracted cooling:

1847,	made	480	wheels.
1848,	"	3,033	"
1849,	"	6,852	"
1850,	"	10,881	"
1851,	"	12,965	"
1852,	"	14,463	"
1853,	"	15,027	"
1854,	"	17,107	"
1855,	"	17,142	"
1856,	"	33,562	"
1857,	"	30,903	"
1858,	"	14,764	"
1859,	"	24,834	"
1860,	"	32,934	"
1861,	"	20,693	"
	Total	255,640	"

It will be observed that the most considerable interruptions to a tolerably uniform annual increase of the number made occurred in 1857 and 1861. These checks to a more uniform, continual growth, are attributed mainly to the same causes that have effected similarly about all other industrial branches of business at and during the terms alluded to, the financial crisis commencing in the fall of 1857, and the rebellion in 1861.

Besides these, there was another cause more potent than all others to retard the demand for our wheels; it was this: We
43 claimed that the process of annealing, or more properly, protracted cooling, to which we subjected our wheels, imparted to them more strength, rendering them safer, while at the same time they were lighter than those made in any other way. This was not denied, but as the popular definition of anneal was to soften, it was more or

less successfully urged by our competitors that the annealing process would so soften the chilled tread as to very much lessen the durability. This theory had just enough truth in it to render it difficult to prove false, so far as it applied to our wheels when properly treated. It is true the chill may be impaired or entirely destroyed by raising the temperature in the annealing chambers too high; this occurred more frequently while we used the first set of annealing chambers than subsequently, although it occasionally happened in the use of the second set; less frequently in the third; never in the fourth set, now in use. Some of the first of these overheated wheels, that escaped detection by the inspection they were subjected to, were put in use; they, of course, performed very little service; the fact, however, that they were so injured by the annealing process, was extensively used by our competitors as a confirmation of the truth of their prediction in the premises, until more than half the term for which the patent was granted had expired, and we had expended more than $50,000 in erecting successively, improved structures to accomplish the object aimed at—for a more elaborate exposition of the history of chilling and annealing car wheels (as practised by us) than seems to belong to this statement.

PROFITS.

I believe there is no essential difference in the cost per pound of making cast-iron chilled car wheels, of the various patterns and by the different modes in use, providing the same skill and system control the manufacture. But by my process I am enabled to make them
44 lighter than those made in any other way for a similar service, and I can therefore afford to sell them at the same price per wheel as other makers, and save the cost of the difference in weight. This saving of metal, therefore, I deem to measure the essential advantage I have over my competitors, and also the profits arising from my patent.

There have been made to January 1, 1862, under my patent, 255,640 wheels of all sizes. From the best data I have been able to get upon the subject, I estimate that 10 lbs. per wheel would be a fair average of the metal saved by my process. On the large sizes there is greater difference than this, but on the small sizes less. I therefore deem 10 lbs. per wheel as an average difference of weight between my wheels and those of other makers. The total amount of metal saved in all the wheels made, as before stated, to January 1, 1862, would therefore be 2,556,400 lbs., and the cost of the same, at the average price paid for pig iron, say 1½ cents per lb., amounts to $38,346, while to develop and perfect my annealing process has cost, as per statement marked A, $52,970 31.

The fourth set of annealing chambers, erected in 1857, were the first that have, in all respects, answered the purpose for which they were constructed, although the third set were a decided improvement on their predecessors, and the character of our wheels had been so much improved thereby that the demand for them reached its highest point in 1856, yet there was more expense and inconvenience in attending them than in the fourth set, so that at most it was only from 1856 that I have really begun to derive any material advantage from my process of annealing, and the profits that would otherwise have resulted from it since have been very much less than they would have been but for the two disastrous checks to the general business of the country that occurred in 1857 and again in 1861. The cost of experiments and changes of structures for developing the improvement patented, has exceed-
45 ed the profits, as before stated, thus:

Say expenses	$52,970 31
" profits	38,346 00
Deficit	$14,624 31

Believing that these annealing ovens and their appendages are now as perfect as we can make them, rendering further expenditure (other than for repairs) unnecessary on their account, the profits by saving of metal in the wheels we are likely to make during the seven years' extension of patent, if granted, would be a satisfactory return for the expenses incurred in bringing into successful use this improvement.

ADVANTAGES TO THE PUBLIC.

The total saving of metal in all the wheels made by us, and subjected to this process of annealing, has been shown to be 2,556,400 lbs. Assuming that each of these wheels ran 50,000 miles before being worn out, and we have equal to 63,910,000 tons of 2,000 lbs. carried one mile. The freight, therefore, on this tonnage, has been saved to the railroad public, and at one cent per ton per mile, a fair rate of cost of movement, amounts to $639,100 00

From which should be deducted the difference in value of the worn-out wheels, which, at one cent per lb. on 2,556,400 lbs., is	25,564 00
Leaving the net saving to the railroad public	$613,536 00

There is also another and greater benefit to railroads resulting from my invention, that is, the greater durability of my wheels. The annealing process enables me to make wheels of higher tempered iron, and consequently to chill deeper than other makers, therefore they
46 wear longer. From statistics in my possession, I am enabled to state that their average durability exceeds considerably 100,000 miles, and we do not hesitate to guarantee that mileage when fairly used, while the average durability of the wheels of all other makers, in my opinion, does not exceed 50,000 miles, nor the wheels of any of them over 75,000 miles.

A. WHITNEY.

47 *Statement A.—Recapitulation of wheels made, and expenditures.*

Year.	Wheels.		Expenditures.	
	Made each year.	Made to end of each year.	Each year.	To end of each year.
1846			$111 06	$111 06
1847	480	480	2,233 31	2,344 37
1848	3,033	3,513	163 12	2,507 49
1849	6,852	10,365	1,024 45	3,531 94
1850	10,881	21,246		3,531 94
1851	12,965	34,211	10,609 21	14,141 15
1852	14,463	48,674	4,986 04	19,127 19
1853	15,027	63,701	826 68	19,953 87
1854	17,107	80,808		19,953 87
1855	17,142	97,950		19,953 87
1856	33,562	131,512		19,953 87
1857	30,903	162,415	19,585 24	39,539 11
1858	14,764	177,179	3,856 06	43,395 17
1859	24,834	202,013	4,759 66	48,154 83
1860	32,934	234,947		48,154 83
1861	20,693	255,640		48,154 83
Add 10 per ct. for designing, superintendence, &c.				4,815 48
				$52,970 31

48 *Statement showing cost of drawings, models, and all other expenses in procuring patent for annealing wheels.*

1.

1846.			
June	7.	Thomas P. Jones	$25 00
Nov.	16.	Phila. & Reading R. R. Co., for a chill	23 31
Dec.	19.	Expenses to Washington	20 50
1847.			
April	1.	Thomas P. Jones, paid on acc't, Dec. 17th, 1846	10 00
"	"	Thomas P. Jones, paid on acc't, March 13th, 1847	20 00
"	"	Expressage on model to Washington, Dec. 24, 1846	1 75
"	15.	Thomas D. Smith, taking testimony	2 00
May	7.	Expressage on model and drawings sent to T. P. Jones	50
"	"	Thomas P. Jones, application for patent	30 00
July	31.	Do. do. do.	30 00
"	"	Postage on letters and drawings to Thos. P. Jones	30
			$163 36

49 *Statement showing cost of castings made by Marshall & Teal, &c.*

2.

1846.			
Dec.	22.	Marshal & Teal, on acc't	$40 00
"	24.	Moulding model	2 25
1847.			
Jan'y	9.	Marshall & Teal, in full	94 85
"	19.	J. P. Morris & Co., casting model	7 60
"	"	W'm P. Cresson & Co., castings	6 54
July	2.	Geo. Burnham, for work on machine, etc	97 63
Dec.	31.	Marshall & Teal, fitting up flasks, etc	256 06
"	"	W'm P. Cresson & Co., making patterns and castings	120 44
			$648 46

Statement showing cost of experiments at M. W. Baldwin's, in casting and annealing wheels.

3.

1847.			
Dec.	31.	M. W. Baldwin, for experiments with wheels, etc	$20 00
"	"	M. W. Baldwin, cast wheel, 380 lbs., at 3c	11 40
"	"	Do. castings for flasks, 398 lbs. at 3½c.	13 93
"	"	M. W. Baldwin, 2 axles, fitting and hanging 2 pair wheels	44 40
			$89 73

50 *Statement showing cost of erecting first set of annealing ovens at Willow street foundry.*

4.

1847.				
June	4.	1,000 common bricks		$6 00
"	5.	Lime, 6 bushels		1 14
"	7.	500 common bricks		3 00
"	9.	Geo. J. Souder, on acc't mason work		15 00
"	12.	Do. in full		3 87
"	19.	Chain, blocks, rope, &c		4 37
July	13.	1 set of plates, cast iron ... 1,320 lbs.		
"	"	148 grate bars, " ... 325		
"	"	Damper, " ... 20		
		1,665 lbs. at 3c.,		49 95
"	27.	Sand, 2 loads		40
"	29.	Fire clay, 1 load		87
"	"	Lime, 7½ bushels		1 50
"	30.	3 sets of plates, viz, 12 for bottom, 13 for top; 3 rings and 3 centre plates, 1,372 lbs., per acc't—total, 4,116 lbs.		
		3 sets grate bars, 148 lbs. ea., 325 lbs	977	
		3 dampers to chimney	165	
		5,258 lbs. at 3c.,		157 74
"	"	Sand, 1 load		20
"	31.	Geo. J. Souder, on acc't mason work		10 00
Aug.	6.	Lime, 7 bushels		1 26
"	9.	Geo. J. Souder, on acc't		30 00
"	"	Fire clay, 1 load		88
		Carried forward		$286 18

51 Brought forward $286 18

1847.			
Aug.	10.	Lime, 2 bushels	50
"	16.	Geo. J. Souder, on acc't	30 00
"	18.	Do. do.	13 37
Sept.	24.	Ab'm Miller, fire brick	137 38
Oct.	2.	W'm Jardin, salmon brick	36 26
"	15.	Double block, for raising covers	1 13
"	16.	Treble do. do. do.	1 38
"	28.	Lime, 7 bushels	1 40
Nov.	1.	Geo. J. Souder, on acc't	10 00
"	8.	Lime, 2 bushels	40
"	"	Geo. J. Souder, on acc't	20 00
"	15.	Do. do.	7 00
"	30.	Do. do.	3 00
Dec.	23.	Do. do.	2 50
	31.	Ab'm Miller, fire brick	103 04
		W'm Jarden, red brick	23 40
		Wages of bricklayers and labor, laying 16,476 brick at 1c	164 76

M. W. Baldwin, casings for ovens, 6,715 lbs., at 8c.		537 20
M. W. Baldwin, 2 thin covers, 5 eye bolts, 201 lbs., at 12½c		25 12
M. W. Baldwin, $6\frac{7}{10}$ days' turning disks, at $4		26 80
M. W. Baldwin, 1 day's dressing disks		1 50
Do. repairing doors		10 50
		$1,442 82

52 *Statement showing cost of second set of annealing ovens, as per drawings marked D, including cost of enlarging foundry to make room for them.*

5.

1849.			
Aug.	7.	Bu'lding permit	$ 25
	10.	R. A. & J. J. Williams' scaffold poles and planks	3 87
	13.	Charles Taylor, on account brick-work	35 00
	18.	do. do. do.	75 00
	20.	Carpenter's wages	11 62
	24.	W. H. Johnson, raising rafters	10 00
	25.	Charles Taylor, on account brick-work	60 00
	27.	Carpenter's wages	14 69
Sept.	1.	Tho's Griffin, on account slating roof	60 00
	1.	Charles Taylor, on account brick-work	40 00
	4.	A. Taylor, carpenter's work	9 00
	5.	Wainwright & Gillingham, lumber for rafters	27 45
	10.	A. Taylor, on account carpenter's work	9 00
	13.	" in full " "	6 00
	15.	Charles Taylor, on account brick-work	25 00
	24.	T. Griffin, in full for slating roof	20 89
	29.	Charles Taylor, on account brick-work	50 00
Oct.	16.	Charles Taylor, in full for service and bills paid by him	154 21
Nov.	2.	Neal & Matthews, in full for work and materials	180 29
	3.	William Jarden, in full for brick	104 60
		Carried forward	$896 87

53 Brought forward $896 87

Dec.	31.	Cast-iron plates, rings, grates, &c., for three ovens, $13,264\frac{35}{100}$, at 3c	397 93
			1,294 80
		Less—John Murphy, for amount transferred from repairs, hands' account, lumber, &c., and charged to him for altering foundry	520 35
			$774 45

Statement showing cost of wooden cranes and platform to take wheels into the yard, at Willow-street foundry.

6.

1848.			
July	15.	Ed. Heston, on account new crane	$50 00
	19.	Rope for swinging new crane	46
Aug.	2.	Ed. Heston, on account new crane	100 00
	3.	Ed. Heston, in full for new crane	12 66
1849.			
Aug.	6.	Ed. Heston, on account new crane	10 00
	25.	Ed. Heston, on account new crane	65 00
Sept.	8.	Ed. Heston, in full for new crane	75 00
		Platform to yard, say	100 00
			$413 12

54 *Statement showing cost of* 40 × 60 *of main building on Callowhill street, say one-tenth of the whole.*

7.

1851 and 1852.		
	Main building and portion of lot on which it stands cost, say, for lot	$1,560 00
	One-tenth of main building	3,440 00
		$5,000 00

Statement showing cost of excavating for annealing ovens, 14 *feet deep, and building stone wall on three sides* 3 *feet thick, and on one side of* 40 *feet,* 2 *feet thick, on Callowhill street.*

8.

1851.		
	Pit for annealing ovens 60 feet long, average 41⅔ feet wide, and 14 feet deep = 1,296 cubic yards, at 40c. per yard, for labor in excavating	$518 44
	Stone in wall around annealing oven, viz: three sides, 158 × 14 × 3, and one side 38 × 14.2—total, 7,700 cubic feet, or 466⅔ cubic perch, at $1 20 per perch	559 99
	Mason's wages for laying 466⅔ cubic perch, at 50c. per perch	233 33
	Carried forward	$1,311 76

55

1861.	Brought forward	$1,311 76
	In consequence of quicksand bottom, the north wall had to be taken down and relaid on wood foundations, sunk 2 feet below the bottom, the cost of which was, at least, twice as much as that of laying it in the first instance, viz: ex-	

cavating $41\frac{2}{3} \times 16 \times 3$ twice, $148\frac{12}{100}$ cubic yards, at 40c. per yard		59 25
Same dimensions of stone wall taken down and relaid, $242\frac{38}{100}$ cubic perch, at 50c. per perch		121 19
		$1,492 20

Statement showing cost of erecting third set of annealing ovens, as per drawings marked 3.

9.

1852.			
Dec. 31.	Amount transferred from "hands' account" to "Callowhill-st. property" for time of men on annealing oven-floors		$221 84
	Castings for ovens, as follow:		
	Fire-fronts for 4 ovens	3,978.00 lbs.	
	Flanges on do	1,987.44 "	
	Bottom and top rings for do	862.52 "	
	Grate bars for small ovens	1,631.72 "	
	Supports for do	851.76 "	
	Large door frames	865.28 "	
	Doors for do	2,059.20 "	
	Bottom plates for small ovens	8,256.24 "	
	Hub in centre of do	329.12 "	
		20,821.28 lbs.	416 42
	Carried forward		$638 26
56			

1852.	Brought forward	20,821.28 lbs.	$638 26
Dec. 31.	Grates and supp'g rings for driving wheel ovens	4,109.36 "	
	Floor plates over all, 15–10 diam. × 1 thick × 4	29,487.04 "	
	Centre column to support	1,393.68 "	
	Two columns at south end of anneal'g oven cellar	1,332.05 "	
	Two girders do. do.	2,517.55 "	
	Two girders north end of anneal'g oven cellar	3,478.80 "	
	Total at 2c. per lb	63,139.76 "	1,262 79
	4 wrought-iron tie-rods for centre column to side walls, 2×18 each $= 753\frac{84}{100}$ lbs., at 7c. per lb		52 77
	Iron stairway to cellar, say		150 00
	Neal, Matthews & Moore, as follows, viz:		
	4 an'g oven cases, flue iron	15,425 lbs.	
	1 an'g oven flue pipe, flue iron	2,775 "	
		18,200 " at 7c.	1,274 00
	12 flanges and 4 dampers, cast iron, 2,687 lbs., at $2\frac{1}{2}$c.		67 18
	Making flange patterns		19 55

	Putting in place cast-iron door frames, 26 days, at $2	52 00
	Putting flanges on small pipes, 10 days, at $2	20 00
	One-half of bill of bolts and nuts for ovens, &c. $44 94	22 47
	Carried forward	$3,142 60

57

1852.	Brought forward	$3,142 60
Dec. 31.	Fire brick, including tiles for oven doors, 7,000 at 3c	210 00
	Fire-brick lining for flue-pipes, wedged, 5,070, at 4c	202 80
	Red brick for lining ovens and filling in between, say 46,750, at $6 per 1,000	280 50
	Red brick in arched floors and paving over all, 31,219, at $8 per 1,000	249 75
	Wages of bricklayers for laying 90,039, at 1c. each	900 39
1853.		
June 30.	Neal, Matthews & Moore, as follows, viz:	
	Making 4 rings for cases, 6,449, at 7c	451 43
	Joint bolts and nuts for pipes, 65, at 7c	4 55
	Making 4 dampers, 5 days, $2	10 00
	Flue iron do., 2d quality, 492, at 5c	24 60
	Small rivets for do., 7, at 10c	70
	Making covers, 1½ days' time, at $2	3 00
	Iron for do., 2d quality, 90, at 5c	4 50
	Small rivets for do., 3, at 12½c	37
July 16.	Sam'l Haines, bricklayers' work, altering ovens	20 50
Aug. 8.	Amount transferred from "Hands' account" to "Callowhill-street property" for work done on annealing ovens and floors, from January 1 to August 1, 1853	307 03
		$5,812 72

58 *Statement showing cost of chimney* 120 *feet high, as per drawings marked A.*

10

1851.		
Aug. 19.	Siter & Bro's, casting for cap and ferriage from Gloucester	$506 19
	Fitting up cap and raising it to its place	50 00
	W'm Wood, painting cap	10 00
	David Rose, pressed brick, 21,250, at $12 per M	255 00
	David Rose, common brick, 84,750, at $7 50 per M	635 62
	Wages of men charged to hands' account	500 00
	Abraham Miller, fire brick	412 70
	Lightning rod and putting it up, 375 lbs., at 10c.	37 50
	T. Armitage, lightning rod point	10 00
	Scaffolding, templets, sand, lime, fire clay, and bricklayers' wages, for laying 106,000 bricks	1,200 00
		$3,617 01

Statement showing cost of erecting a new wooden crane in Callowhill-street foundry.

11.

1851—Estimated cost of crane for use of annealing ovens, including cost of foundations and fixtures attached to building, for holding top in position.....	$500 00

59 *Statement showing cost of removing third set of annealing ovens and erecting others in their stead, as per drawings marked* 4.

12.

1857—Cast iron in 4th set of annealing ovens, viz:			
Plates around foundations.....	11,226.80	lbs.	
36 rings for bottoms of cases.....	6,550.13	"	
Floor plates, including top rings..	85,201.74	"	
Plates around fire boxes.....	14,103.96	"	
75 grate bars, $26\frac{16}{100}$ lbs. each.....	1,962.00	"	
Posts for grates.....	772.05	"	
3 plates in bridge walls of fire boxes	461.57	"	
4 columns to support floor joists...	3,327.48	"	
22 angle pieces for holding floor joists.....	286.66	"	
Floor plates at north end of cellar.	19,613.88	"	
3 columns under driving wheel ovens.....	3,469.79	"	
3 bottom plates for do.....	5,701.49	"	
675 grate bars for do.....	1,485.00	"	
3 plates for top of foundation.....	3,312.97	"	
Casting around stairway opening..	702.00	"	
Escape flues and valves.....	15,685.92	"	
Casting around hoistway.....	435.24	"	
Total at 4c. per lb.....	174,298.68		6,971 95
Carried forward.....			$6,971 95

60

1857.	Brought forward.....	$6,971 95
July 27.	Neal, Matthews & Moore, for work and materials.....	721 51
Aug. 8.	Wrought-iron girders from Phœnix Iron Company.....	284 29
	Tie-rods in foundations and fire boxes, $3,456\frac{57}{100}$ lbs., at 7c.....	248 26
	Small bolts from Hooper & Townsend.....	76 72
	Red brick in foundations and cellar, 22,783, $8 per M.....	182 26
	Red brick for lining ovens, $34,020, at $7 per M.	238 14
	Fire brick for lining flues and ovens, 10,110, at at $38 per M.....	384 18
	Bricklayers' wages for laying 66,913 bricks, at 1c. each.....	669 13

Oct.	24.	Matthews & Moore, for labor and materials furnished		2,005 13
Dec.	31.	Wages paid men, including amount paid for first arrangement, which was afterwards abandoned		2,065 90
		Matthews & Moore, for labor and materials furnished		488 52
1858,				
Dec.	31.	Amount transferred from "Hands' account" to "Callowhill-street property," for work on annealing ovens..	$72 70	
		Replacing stairway	45 96	
		Coal-pit, in yard	15 00	
				133 66
		Carried forward		$14,469 65

61

1858.				
Dec.	31.	Brought forward		$14,469 65
		Castings for coal-pit in yard, $4,000 lbs., at $2\frac{1}{2}$ c.		100 00
		John Agnew, for $22\frac{56}{100}$ cub. perch stone for do., $1 25 per perch		28 87
		Masons' wagers, laying $22\frac{56}{100}$ perch stone for coal-pit, at 50c.		11 28
		Excavating earth for coal-pit, $133\frac{1}{3}$ yards, at 40c.		53 33
		Red brick in arch of coal-pit, 2,160, at $8 per M.		17 28
		Bricklayers' wagers for laying 2,160 brick, at 1c. each		21 60
				$14,702 01

Statement showing cost of the new hydraulic cranes with force pump and apparatus for working, complete.

13

1857.				
May	7.	W'm Sellers & Co., for hydraulic crane and accumulator		$236 75
June	28.	W'm Sellers & Co., for hydraulic crane and accumulator		54 88
July	31.	W'm Sellers & Co., for hydraulic crane and accumulator		512 62
Aug.	31.	W'm Sellers & Co., for hydraulic crane and accumulator		243 50
Sept.	30.	W'm Sellers & Co., for hydraulic crane and accumulator		1,007 19
Oct.	31.	W'm Sellers & Co., for hydraulic crane and accumulator		801 44
		Carried forward		$ 456 38

62

1857.		Brought forward	$ 456 38
Nov.	30.	W'm Sellers & Co., for hydraulic crane and accumulator	1,518 31
Dec.	21.	W'm Sellers & Co., for hydraulic crane and accumulator	572 15
Dec.	31.	W'm Sellers & Co., for hydraulic crane and accumulator	302 41
1858.			
Feb.	22.	W'm Sellers & Co., for hydraulic crane and accumulator	165 94
March	22.	W'm Sellers & Co., for hydraulic crane and accumulator	250 21
April	21.	W'm Sellers & Co., for hydraulic crane and accumulator	119 98
May	17.	W'm Sellers & Co., for hydraulic crane and accumulator	486 53
June	28.	W'm Sellers & Co., for hydraulic crane and accumulator	610 60
June	30.	W'm Sellers & Co., for hydraulic crane and accumulator	26 58
July	31.	W'm Sellers & Co., for hydraulic crane and accumulator	61 50
Sept.	21.	W'm Sellers & Co., for hydraulic crane and accumulator	137 37
Oct.	20.	W'm Sellers & Co., for hydraulic crane and accumulator	80 22
Nov.	25.	W'm Sellers & Co., on acc., hydraulic crane and accumulator	$151 97
Dec.	21.	W'm Sellers & Co., on acc't, hydraulic crane and accumulator	765 81
		Carried forward	$8,105 96

63

1858.		Brought forward	$8,105 96
Dec.	31.	W'm Sellers & Co., on acc't, hydraulic crane and accumulator	618 02
	31.	Wages of men on acc't, charged to hands' account in 1858	15 31
1859.			
Feb.	17.	W'm Sellers & Co., on acc't hydraulic crane and accumulator	889 08
March	21.	W'm Sellers & Co., on acc't hydraulic crane and accumulator	663 98
April	16.	W'm Sellers & Co., on acc't hydraulic crane and accumulator	629 35
June	27.	W'm Sellers & Co., on acc't hydraulic crane and accumulator	686 42
	30.	W'm Sellers & Co., on acc't hydraulic crane and accumulator	776 88
August	24.	W'm Sellers & Co., on acc't hydraulic crane and accumulator	304 29
Sept.	24.	W'm Sellers & Co., on acc't hydraulic crane and accumulator	128 25

Oct.	17.	W'm Sellers & Co., on acc't hydraulic crane and accumulator	308 47
Nov.	26.	W'm Sellers & Co., on acc't hydraulic crane and accumulator	221 39
Dec.	9.	W'm Sellers & Co., on acc't hydraulic crane and accumulator	115 42
	31.	W'm Sellers & Co., on acc't hydraulic crane and accumulator	36 13
			$13,498 95

64 SUMMARY.

Statement	1.	Cost of procuring patent	$163 36
	2.	" patterns made by Marshall & Teal, and others	648 46
	3.	" experiments at M. W. Baldwin's	89 73
	4.	" erecting first set of annealing ovens, Willow street	1,442 82
	5.	" erecting second set of annealing ovens, Willow street	774 45
	6.	" cranes and platform to yard	413 12
	7.	" main building, Callowhill st., occupied by annealing ovens	5,000 00
	8.	" preparing pit for annealing ovens, Callowhill street	1,492 20
	9.	" erecting third set of annealing ovens, Callowhill street	5,812 72
	10.	" chimney 120 feet high	3,617 01
	11.	" wooden crane for annealing ovens.	500 00
	12.	" erecting fourth set annealing ovens	14,702 01
	13.	" hydraulic cranes and accumulator.	13,498 95
			$48,154 83
Add ten per cent. for designing, drawings, and superintendence			4,815 48
			$52,970 31

65 STATE OF PENNSYLVANIA,
City and County of Philadelphia, ss:

ASA WHITNEY, being duly sworn, doth depose and say that the annexed statement and account is correct.

A. WHITNEY.

Sworn and subscribed before me this fourth day of February, A. D. 1862.

CHARLES E. PANCOAST, [L. S.]
Alderman.

In the matter of the application of Asa Whitney, for an extension of letters-patent granted to him on the 25th of April, 1848, for an improvement in car wheels.

Before C'r P.:

JAMES MOORE, being duly affirmed, doth depose and say:

That he is one of the firm of Matthew & Moore, formerly Neal & Matthew, machinists and iron-founders, in the city of Philadelphia. I know Asa Whitney, the inventor of an improved process of manufacturing car wheels, patented April 25th, 1848. Our firm did the iron work, and furnished material for the different annealing furnaces erected by Mr. Whitney. I have examined the account of said Whitney, and I am satisfied that the amount charged therein as having been furnished by Neal & Matthew, embracing items set out in said account, are essentially correct. I was unable to examine all the bills, as one, for no very large amount, however, was mislaid; the account runs through a period of eight or nine years, and the bill was for work done during our former partnership, to the books of which I have not
66 access; but I am satisfied that, as I stated before, the account is essentially correct.

JAMES MOORE.

Sworn and subscribed before me this 18th day of March, A. D. 1862.

JAMES McCAHAN,
Alderman and Justice of the Peace.

In the matter of the application of Asa Whitney, for an extension of letters-patent granted to him on the 25th day of April, 1848, for an improvement in car wheels.

Before C'r P.:

WILLIAM SELLERS, being duly sworn, doth depose and say:

That I am senior partner in the firm of William Sellers & Co., of Philadelphia; that I know Mr. Asa Whitney, and have known him for many years; I have frequently visited his works for making car wheels, in the city of Philadelphia, and have built his machinery for manufacturing his improved wheels; I have read the account of expenses of machinery pertaining to the manufacture of his patented wheels, and the items in

Statement No. 5, amounting to	$744 45
The items in Statement No. 6, amounting to	413 12
" " " " " 9, " "	5,812 72
" " " " " 11, " "	500 00
" " " " " 12, " "	14,702 01
" " " " " 13, " "	13,498 95

are amounts, the correctness of which is within my knowledge; the other items are not within my knowledge. I have been familiar with the manufacture of iron in its various forms for many years; I am also familiar with the mode of making car wheels invented by said Asa Whitney, and I regard it as a very valuable improvement; my
67 attention has also been directed to its practical value on railroads, as a director of a railroad company which used said Whitney's patented wheels, and I consider it a great saving to railroad companies. I have read the statement of Mr. Asa Whitney, setting forth

the advantages of this improvement, and filed in the Patent Office, and I believe it to be true and correct; I cannot place a money value on the improvement, however, as railroad engineers can do.

W'M SELLERS.

Sworn and subscribed before me this 18th day of March, A. D. 1862.

JAMES McCAHAN,
Alderman and Justice of the Peace.

In the matter of the application of Asa Whitney for an extension of letters-patent granted to him on the 25th April, 1848, for an improvement in car wheels.

Before C. P.:

CHARLES TAYLOR, being duly affirmed, doth depose and say:

I am a bricklayer, and reside in the city of Philadelphia, and have resided there for many years; I know Asa Whitney, the patentee, and have known him for many years; I am acquainted with his patented process for making wheels; I have constructed the brick-work for the second, third, and fourth sets of annealing ovens used by him, and mentioned in the summary of expenses in said Asa Whitney's account, and have also superintended the masonry for said Whitney's present car-wheel works; and I have examined the statement of expenses of Asa Whitney in his application for an extension of his letters-patent, and the items of expense pertaining to said structures are within my knowledge, and are just and correct; these items relate to the second, third and fourth sets of annealing ovens, and so much of the building
68 as is appropriate to the annealing of car wheels; all these items of expense were rendered necessary for the carrying-out and perfecting the patented process of making said Whitney's improved car wheels.

CHARLES TAYLOR.

Affirmed and subscribed before me this 18th day of March, A. D. 1862.

JAMES McCAHAN,
Alderman and Justice of the Peace.

In the matter of the application of Asa Whitney for an extension of letters-patent granted to him on the 25th day of April, 1848, for an improvement in car wheels.

Before C. P.:

J. DUTTON STEELE, being duly sworn, doth depose and say:

I am a civil engineer by profession, and have been engaged on the Philadelphia and Reading Railroad for fifteen years; part of the time as superintendent and engineer, and part of the time as vice-president. I have given considerable attention to the subject of car wheels, in connection with that road. I am well acquainted with the invention of Asa Whitney for manufacturing car wheels, patented to said Whitney, April 25, 1848. I have long been practically acquainted with the value of wheels made under Mr. Whitney's patent. The Reading Railroad Company has used many wheels not made under his patent. It has also used many wheels made by Whitney, under his patent aforesaid. The

Philadelphia and Reading Railroad Company make many wheels themselves which are not made under his patent, but they do not trust any wheels under passenger cars but Whitney's patented wheel aforesaid.

I consider the Whitney wheel less liable to fracture, and there-
69 fore safer. I have no doubt that the extensive use of these wheels under passenger cars, has tended greatly to diminish the risk of accidents and the loss of life and limb on our railroads.

The statistics of wheels on the Reading Railroad during a period of ten years, show that the wheels manufactured under the patented process of said Whitney, will run over 100,000 miles, while those manufactured without his process, run about 50,000 miles.

There is no doubt that Mr. Whitney's wheel, with a diminished weight, possesses superior strength over other wheels. On the average roads of the country, I think that one cent per ton per mile on the excess of weight in other wheels than Whitney's, over Whitney's wheel, would be a fair estimate of the saving to the railroad interest of the country, in a money point of view, of the use of his wheels. This advantage is, of course, additional to the diminished liability to accidents, a consideration of great importance, in a financial point of view, to railroad companies.

J. DUTTON STEELE.

Sworn and subscribed before me this 18th day of March, A. D. 1862.

JAMES McCAHAN,
Alderman and Justice of the Peace.

In the matter of the application of Asa Whitney for an extension of letters-patent granted to him on 25th April, 1848, for an improvement in car-wheels.

Before C. P.:

JOHN MURPHY, being duly sworn, doth depose and say:

I am a member of the firm of Murphy & Allison, car builders,
70 in the city of Philadelphia, and have been engaged in car building since 1833. I have used an immense number of car wheels of all varieties of patterns, and made by various processes of construction. I am familiar with the car wheel manufactured by Asa Whitney, according to the process patented by him April 25, 1848. I have known Asa Whitney for many years; many of his experiments were made by him during the five years he occupied, as a tenant, a building which I owned. He built, to my knowledge, during those five years, two sets of furnaces for experimenting, and afterwards tore them down and built others at considerable expense. His process, although very complete, yet required ovens of very nice construction to secure the perfect manufacture of all the wheels placed in them. As the number of wheels required increased, he was constantly obliged to change his ovens to avoid defective wheels being produced. He also replaced any defective wheels which he manufactured, by a good wheel, at his own expense, during the time of these experimental ovens. At the time of Mr. Whitney's patent, car wheels were made at nearly every point, of any size, along the lines of the railroad, wherever there was a foundry. The sectional prejudices of these manufacturers was united against this wheel. The report was industriously circulated by these parties that the process by which Mr. Whitney's wheels were manufactured, would soften the wheels on the chilled or outer portion of the wheel. This was not true in fact, as I now know by long continued use of these wheels; but the industrious

circulation of this report by numerous rival manufacturers, created a prejudice among railroad companies against the wheel, which required some years to remove, and which, in fact, with some railroad companies, has only been removed within the last two years. I regard Mr. Whitney's wheel, as manufactured by his patented process, as far superior to any other wheel. I have compared, by actually weighing Mr. Whitney's wheel, with numerous other wheels, and I find that, taking the
71 diameter of wheels, (33-inch,) most frequently used by me, there is a difference in favor of Mr. Whitney's wheel of from ten to fifteen pounds in lightness. His wheels are stronger, at the same time less liable to break, and will run considerably longer than other wheels. I know of some wheels of Mr. Whitney's now in use, that have been running for some eight to ten years. A difficulty which prevented the general introduction of Mr. Whitney's wheel at an earlier date, was that the railroad companies could not, without a long comparative trial of his wheels with other wheels, be practically satisfied with the durability of his wheels. He could not by an exhibition of his wheel, or an inspection of its exterior, demonstrate the advantage due to his mode of manufacture, and it was only by demonstrating, on the few roads which he could succeed in inducing to try it, after the lapse of some years of comparative trial, that they were so far superior to other wheels in strength and durability.

JOHN MURPHY.

Sworn and subscribed before me this 18th day of March, A. D. 1862.

JAMES McCAHAN,
Alderman and Justice of the Peace.

STATE OF PENNSYLVANIA,
City and County of Philadelphia, ss:

At Philadelphia, in said county, on the 18th day of March, A. D. 1862, before me, personally appeared the above-named J. Dutton Steele, Charles Taylor, William Sellers, James Moore, and John Murphy, and severally made oath or affirmation respectively, that the foregoing depositions, signed by them respectively, contain the whole truth, and nothing but the truth.

The said depositions are taken at the request of Asa Whitney,
72 to be used at the hearing of his application for an extension of the letters-patent granted to him on the 25th day of April, 1848, for an improvement in car wheels, before the Commissioner of Patents of the United States, on the day of April next; that as there were no opponents to his said application, there was no notice of the time and place of taking the same given to any one.

JAMES McCAHAN,
Alderman and Justice of the Peace.

In the matter of the application of Asa Whitney for an extension of letters-patent, granted April 25th, 1848.

JOHN MURPHY, being recalled and duly sworn, doth depose and say:

I have been purchasing large numbers of car wheels of all kinds since 1834. I am familiar with the prices of various wheels. The annexed list of prices of the Whitney wheels is correct.

Mr. Whitney has kept the price of his wheels below that of most other makers, thereby saving to the public in that respect, of cost, at

the same time that his wheels possessed the superior qualities of durability and strength, united to lightness, of which I have spoken in my former affidavit.

The effect of Mr. Whitney supplying the public with a superior wheel at a reduced price has compelled the other manufacturers of wheels to come down to the prices which he has established from time to time.

I would think eleven dollars and a half per wheel would be a fair average price to put the wheels of the country at for the present time, taking the various railroads.

JOHN MURPHY.

Sworn and subscribed before me this 21st day of March, A. D. 1862.
JAMES McCAHAN,
Alderman and Justice of the Peace.

73 *Prices of W. A. Whitney & Sons' wheels, delivered at Philadelphia at 3 and 4 months' credit.*

Date when price was fixed.	30″ wheels. about.	33″ wheels. about.	36″ wheels.
1847.	$14½, (350 lbs.)	$15, (385 lbs.)	$16, (430 lbs.)
Jan'y 1, 1849.	14½, (425 lbs.)	15½, (465.)	
" 1, 1850.	13½	14½	
" 1, 1851.	14	14	
Oct'r 1, 1851.	12½	14	
Jan'y 1, 1852.	12	13	
" 1, 1853.	12½	13½	
June 1, 1853.	13½	14½	
Feb'y 1, 1855.	13	14	
M'ch 2, 1857.	12	13½	
Jan'y 1, 1858.	12	13	
Ap'l 15, 1858.	12½	12½	
" 14, 1860.	11	12½	
June 1, 1861.	10¾, (430 lbs.)	12¼, (490 lbs.)	13¼, (630 lbs.)

In the matter of the application of Asa Whitney for an extension of letters-patent, granted April 25th, 1848.

JOHN H. REDFIELD, being duly sworn, doth depose and say:

That he is a book-keeper in the employ of Asa Whitney; that he has examined the record book in which the number of patented wheels made under Asa Whitney's patent is kept; that he has examined the account filed by Asa Whitney, in which the number of wheels made each year is set forth, and showing an aggregate of 255,640 wheels to January 1st, 1862, and that the same is correctly taken from the books of said Asa Whitney.

JOHN H. REDFIELD.

Sworn and subscribed before me this 22d day of March, A. D. 1862.
JAMES McCAHAN,
Alderman and Justice of the Peace.

74 STATE OF PENNSYLVANIA,
City of Philadelphia, ss:

On this 22d day of March, A. D. 1862, personally appeared before me, the subscriber, an alderman and justice of the peace of said city, the above-named John Murphy and John H. Redfield, and William Helme, and severally made oath respectively, that the foregoing depositions, signed by them respectively, contain the truth, the whole truth, and nothing but the truth.

The said depositions are taken at the request of Asa Whitney, to be read at the hearing of his application for an extension of the letters-patent granted to him on the 25th day of April, A. D. 1848, for an improvement in car wheels, before the Commissioner of Patents of the United States, at his office, on the day of April; that as there were no opponents to his said application, there was no notice given of the time and place of taking the same to any one.

Witness my hand and seal the day and year aforesaid.

[SEAL.] JAMES McCAHAN,
Alderman and Justice of the Peace.

I hereby certify that the depositions of James Moore, William Sellers, Charles Taylor, James D. Steele, John Murphy, and John H. Redfield, in the matter of the application of Asa Whitney for an extension of letters-patent granted April 25th, 1848, were taken, sealed up, and addressed to the Commissioner of Patents by me.

Witness my hand and seal this 22d day of March, A. D. 1862.

[SEAL.] JAMES McCAHAN,
Alderman and Justice of the Peace.

Received and filed March 24, 1862. E. W. W. G.

75 *E.—Copy letters-patent.—A. L. Mowry, May 7, 1861.*

To all to whom it may concern:

Be it known that I, A. L. Mowry, of the city of Cincinnati, in the county of Hamilton, and State of Ohio, have invented a new and improved mode of annealing car wheels, and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and letters of reference marked thereon which form part of this specification.

My invention consists in the use of charcoal or other equivalent substance, interlaid with the wheels in the annealing pits, in connection with the regulated admission of air, for the purpose of heating the
76 wheels up to a proper temperature, prolonging the heat and permitting them to cool in the course of a given time, gradually, as will be more particularly explained below.

In order that others duly skilled may be enabled to understand, and construct and use my invention, I shall proceed to describe it in detail.

In the accompanying drawings, Figure 1 is a perspective view of two annealing pits and the necessary flues. Figure 2 is a vertical section through the same. Like letters of reference designate like parts in all the drawings.

A A are two annealing pits which may be constructed of double metal shells *a a*, with concrete or other refractory material, *b*, between, or they may be merely built of brick. B is the horizontal flue, communicating with inside of pits by the perforated plate (in bottom of pit)

c c. C is the vertical flue or chimney-shaft which communicates
77 with horizontal flue B, and may be of any convenient height. D is a cover provided to each pit; in the centre of cover is an opening *d*, which is closed by a damper *e*; *w w* are car wheels built up in the pit with charcoal between, and *f* a perforated cast-iron plate laid on top of the topmost layer of charcoal, so as to distribute the air admitted equally through the fuel in the pit. The operation of my invention is as follows: A layer of charcoal having been laid on the perforated bottom *c* of the annealing pit, the wheels, as they are turned out of the moulds red hot, are placed in the pit, with a layer of charcoal between each wheel, a layer of charcoal being laid on the uppermost wheel, and on this, a perforated metal plate is laid. The charcoal becoming
78 now ignited by the hot wheels, the cover of the pit is then laid on, and the damper opened so as to admit just sufficient air to effect the combustion of the contained charcoal in the space of 72 hours, less or more, as may be found necessary for the annealing operation. The draft of air in the apparatus shown on drawings, is from above downward, but it may, without effecting my invention, be from below upwards by conveying the air from the horizontal flue up through the pits and through the aperture in cover, and from thence through flues into the main shaft or chimney *c*; the result will be the same in both cases, and the adoption of one or the other plan will be dictated by convenience.

It is well understood that chilled car wheels require to be cooled
79 by a process which will permit the different parts to adjust themselves to each other and accom'odate the unequal contraction which results from the process of chilling; for this purpose, the wheels while still hot are sometimes placed in pits and covered with dry sand, which causes them to retain their heat for a considerable time, and in slowly cooling, the adjustment above referred to takes place. In other cases, the wheels are placed in pits, when they are heated by a furnace and maintained at a high heat for several days. In other cases, they are placed in pits, and a current of air is caused to pass through the centre eye of the wheel, which cools the hub more rapidly than the rim is cooled, thus reversing the process which takes place when the wheel is first cast in a mould with a chill surrounding the rim. All
80 these devices, and *and* others, which it is not necessary to specify, are attended with difficulties and with imperfections, which it is the design of my invention to obviate.

In the operation of my invention, it is found that the wheels when removed from the annealing pit, are devoid of any strains from unequal contraction, and that they afford as much apparent resistance to fracture as if they had been cast in an ordinary sand mould without the use of a chill.

I do not claim as my invention, or any part thereof, the pits, flues, or currents of air for the purpose herein described; but what I claim as new, and desire to secure by letters-patent is: The employment of charcoal, or other equivalent combustible substance, interlaid between the wheels in a pit, in a combination with an aperture, *d*, for regu-
81 lating the supply of air to the same, so as to prolong the combustion of the fuel, and retain the heat for the purpose herein described.

A. L. MOWRY,
Inventor.

THO'S W. WITHENBUR,
W'M CLOUGH,
Witnesses.

I hereby certify that, in my opinion, the foregoing demurrer is well founded in point of law.

HENRY BALDWIN, JR.,
Of Counsel for Defendant.

UNITED STATES OF AMERICA,
Eastern District of Pennsylvania, ss:

On this sixth day of June, A, D. 1870, before me came the above-named defendant, Asa Whitney, and being duly sworn, makes oath and says, that the foregoing demurrer is not interposed for delay.

[NOTARIAL SEAL.] A. P. RUTHERFORD,
Notary Public.

Filed June 6, 1870.

85 Whereupon afterwards, to wit, on the seventeenth day of October, in the year last aforesaid, at October sessions, 1870, this cause came on to be heard upon the demurrer filed by the defendant at the last term of this court, and was argued by counsel for the respective parties, and thereupon, and upon consideration thereof, it is ordered, adjudged, and decreed, that the said demurrer be allowed and sustained, and adjudged sufficient, and that on the said demurrer so filed as aforesaid, the said complainant's bill be, and the same hereby is, dismissed with costs to said defendant, to be taxed by the clerk of this court.

86 And afterwards, to wit, on the seventh day of November, in the year last aforesaid, comes the complainant above named, by his counsel, and prays an appeal to the Supreme Court of the United States from the final decree entered in this cause at this the October term, A. D. 1870, of this court, and the same is now and hereby allowed.

W. STRONG, *J.*

Nov. 7, 1870.

87 UNITED STATES OF AMERICA,
Eastern District of Pennsylvania, sct:

I, Samuel Bell, certify the foregoing to be a true and faithful copy of the record and proceedings of the circuit court of the United States, in and for the eastern district of Pennsylvania, in the third circuit, in a certain suit in equity therein, lately depending between Albert L. Mowry, complainant, and Asa Whitney, respondent.

In testimony whereof I have hereunto subscribed my name and affixed the seal of the said circuit court at Philadelphia, this third day of December, A. D. 1870, and the ninety-fifth year of the independence of the said United States.

[SEAL.] SAMUEL BELL,
Clerk Circuit C't U. S. E. D. Pa.

Costs $116 00, p'd by Mr. Collier. W. G. H.

(Indorsement on cover:) No. 348. Albert L. Mowry, appellant, vs. Asa Whitney. E. Pennsylvania C. C. U. S. Filed 7th December, 1870.

United States Supreme Court.

ALBERT L. MOWRY, *Appellant.*
vs.
ASA WHITNEY, *Appellee.*

IN EQUITY.
No. 147.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF PENNSYLVANIA.

ABSTRACT OF RECORD, AND BRIEF OF POINTS ON BEHALF OF THE APPELLANT.

Butt & Co., Prs., 37 and 39 S. Third St., Phila.

Supreme Court of the United States.

Albert L. Mowry, Appellant,
vs.
Asa Whitney, Appellee.
} *In Equity.*

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES, FOR THE EASTERN DISTRICT OF PENNSYLVANIA.

The Bill of Complaint alleges:

1st. That the Complainant, Mowry, is a citizen of the State of New York, residing in the City of New York, and that the Defendant, Asa Whitney, is a citizen of the State of Pennsylvania, residing in the City of Philadelphia.

2d. That on the 25th day of April, 1848, Letters Patent of the United States of that date were issued to said Whitney for a certain alleged new and useful process for prolonging the time of cooling in connection with annealing cast-iron railroad car wheels; said Patent being numbered 5531, and the grant being for 14 years from and after the said 25th April, 1848. A copy of said Patent being annexed to the Bill, and made part thereof, marked A.

3d. The application by Whitney, on or about March 22, 1862, for an extension of the term of said Patent, and that the same was extended by the Commissioner of Patents for the term of seven years from and after the 25th day of April, 1862; a copy of the certificate of extension being annexed to the Bill, and made part thereof, marked B.

4th. That in the matter of his said application for extension, the said

Whitney did not comply with the Acts of Congress then in force, regulating such proceedings; that being by the Acts of Congress required to furnish to the Commissioner of Patents "*a statement in writing, under oath, of the ascertained value of the invention, and of his receipts and expenditures, sufficiently in detail to exhibit a true and faithful account of loss and profit in any manner accruing to him from and by reason of said invention,*" he, Whitney, did furnish to the said Commissioner of Patents, in connection with his said application for extension, a statement in writing, duly signed and sworn to by him, said Whitney, on the 4th day of February, 1862, which statement purported to be a true and faithful statement and account of loss and profit in any manner accruing to him, said Whitney, from and by reason of said invention; a copy of said statement and account being annexed to the Bill, and made part thereof, marked C.

5th. The said statement and account of said Whitney, aforesaid, was not such true and faithful statement and account of loss and profit as required by the Acts of Congress, or as it purported to be, but was in fact, untrue, false, deceptive and fraudulent, whereby he, said Whitney, wilfully and fraudulently concealed and suppressed from the said Commissioner of Patents the fact of the receipt by him, said Whitney, of enormous gains and profits derived by him from his said patented invention, during the original term of said Patent, and prior to the making by him of his said statement and account.

6th. That in said statement and account of said Whitney, so as aforesaid filed and exhibited by him in the matter of said application for extension, he, said Whitney, represented and set forth that he had only derived and received, during the period embraced in said statement and account, as gains and profits from said patented invention, the sum of $38,346 00, being the value of iron saved by him, said Whitney, by said invention in the manufacture of 255,640 wheels, and that his expenses for developing the said improvement had amounted to the sum of $52,970 31, his expenses consequently having exceeded his profits by the sum of $14,624 31.

7th. That said application for extension was granted, and said certificate of extension endorsed on said Patent, by said Commissioner of Patents, upon the supposed truth, on his part, of said statement and account, and under the belief, on the part of said Commissioner, that

said Whitney had not been sufficiently remunerated from his said patented invention during the original term thereof; whereas said statement and account being untrue, false, &c., as aforesaid, said Commissioner was misled, defrauded and deceived thereby; and said Whitney had been adequately remunerated &c. Annexed to the Bill, and made part thereof, is a copy of the Examiner's report in the matter of said application for extension, marked D.

8th. That prior to the making by said Whitney of his said statement and account of loss and profit, and prior to said application for extension, and during the original term of said Patent, he, said Whitney, had received great gains and profits from said Letters Patent and invention, to wit: the sum of $237,491 00 from the firm of A. Whitney & Sons, of said City of Philadelphia, for the right and privilege of using the said patented invention. * * * * * * * * * *

"And that of said several sums of money the said Asa Whitney did receive to his own exclusive use and enjoyment, and as profit and gain from said Letters Patent and invention, the sum of $251,591 32, making, together with said sum of $38,346 00, admitted in said account of loss and profit, a total gain and profit of $289,937 32, and a net, or clear gain, over and above the amount of expenditures incurred by said Whitney in and about his said invention, of $236,-967 01, instead of a loss of $14,624 31, as represented and set forth by said Whitney in his said account of loss and profit."

That the fact of the receipt of said gains and profits, amounting to said sum of $251,591 32, as aforesaid, was fraudulently omitted by said Whitney from his said statement and account, and concealed by him from the Commissioner of Patents, &c.

That said sums should have been included in said statement and account, &c.

9th. That said extension ought not to have been granted, for the reason that Whitney had been adequately remunerated, that such extension was contrary to the public interest, and that the said application would not have been granted, had not the Commissioner of Patents been defrauded and deceived by the fraudulent suppression and concealment of said Whitney, as aforesaid.

10th. Sets forth the grant to Complainant, Mowry, of Letters Patent, dated May 1, 1861, for process of annealing car wheels (copy annexed,

Whitney did not comply with the Acts of Congress then in force, regulating such proceedings; that being by the Acts of Congress required to furnish to the Commissioner of Patents "*a statement in writing, under oath, of the ascertained value of the invention, and of his receipts and expenditures, sufficiently in detail to exhibit a true and faithful account of loss and profit in any manner accruing to him from and by reason of said invention,*" he, Whitney, did furnish to the said Commissioner of Patents, in connection with his said application for extension, a statement in writing, duly signed and sworn to by him, said Whitney, on the 4th day of February, 1862, which statement purported to be a true and faithful statement and account of loss and profit in any manner accruing to him, said Whitney, from and by reason of said invention; a copy of said statement and account being annexed to the Bill, and made part thereof, marked C.

5th. The said statement and account of said Whitney, aforesaid, was not such true and faithful statement and account of loss and profit as required by the Acts of Congress, or as it purported to be, but was in fact, untrue, false, deceptive and fraudulent, whereby he, said Whitney, wilfully and fraudulently concealed and suppressed from the said Commissioner of Patents the fact of the receipt by him, said Whitney, of enormous gains and profits derived by him from his said patented invention, during the original term of said Patent, and prior to the making by him of his said statement and account.

6th. That in said statement and account of said Whitney, so as aforesaid filed and exhibited by him in the matter of said application for extension, he, said Whitney, represented and set forth that he had only derived and received, during the period embraced in said statement and account, as gains and profits from said patented invention, the sum of $38,346 00, being the value of iron saved by him, said Whitney, by said invention in the manufacture of 255,640 wheels, and that his expenses for developing the said improvement had amounted to the sum of $52,970 31, his expenses consequently having exceeded his profits by the sum of $14,624 31.

7th. That said application for extension was granted, and said certificate of extension endorsed on said Patent, by said Commissioner of Patents, upon the supposed truth, on his part, of said statement and account, and under the belief, on the part of said Commissioner, that

said Whitney had not been sufficiently remunerated from his said patented invention during the original term thereof; whereas said statement and account being untrue, false, &c., as aforesaid, said Commissioner was misled, defrauded and deceived thereby; and said Whitney had been adequately remunerated &c. Annexed to the Bill, and made part thereof, is a copy of the Examiner's report in the matter of said application for extension, marked D.

8th. That prior to the making by said Whitney of his said statement and account of loss and profit, and prior to said application for extension, and during the original term of said Patent, he, said Whitney, had received great gains and profits from said Letters Patent and invention, to wit: the sum of $237,491 00 from the firm of A. Whitney & Sons, of said City of Philadelphia, for the right and privilege of using the said patented invention. * * * * * * * * * *

"And that of said several sums of money the said Asa Whitney did receive to his own exclusive use and enjoyment, and as profit and gain from said Letters Patent and invention, the sum of $251,591 32, making, together with said sum of $38,346 00, admitted in said account of loss and profit, a total gain and profit of $289,937 32, and a net, or clear gain, over and above the amount of expenditures incurred by said Whitney in and about his said invention, of $236,-967 01, instead of a loss of $14,624 31, as represented and set forth by said Whitney in his said account of loss and profit."

That the fact of the receipt of said gains and profits, amounting to said sum of $251,591 32, as aforesaid, was fraudulently omitted by said Whitney from his said statement and account, and concealed by him from the Commissioner of Patents, &c.

That said sums should have been included in said statement and account, &c.

9th. That said extension ought not to have been granted, for the reason that Whitney had been adequately remunerated, that such extension was contrary to the public interest, and that the said application would not have been granted, had not the Commissioner of Patents been defrauded and deceived by the fraudulent suppression and concealment of said Whitney, as aforesaid.

10th. Sets forth the grant to Complainant, Mowry, of Letters Patent, dated May 1, 1861, for process of annealing car wheels (copy annexed,

and made part of the Bill, marked E); that under the supposed protection thereof, he, Complainant, did engage at Cincinnati, Ohio, in the manufacture of car wheels, employing therein the improvement so patented to him, Mowry: sets forth the bringing of suit by Whitney against him, March, 1866, in the United States Circuit Court for the Southern District of Ohio, for the alleged infringement of his, said Whitney's, Patent, extended April 7, 1862, as aforesaid; that a decree was entered in said cause, April 5, 1867, in favor of said Whitney, finding that the process of the Complainant herein, Mowry, was an infringement on the Patent of said Whitney; that an injunction was granted and ordered against the Complainant herein, restraining him from the further practice of his said process, and a reference to a Special Master ordered, to take and report to the said Court an account of the gains and profits derived by the Complainant herein, Mowry, from his said manufacture at Cincinnati.

11th. That in the course of the investigation had by said Special Master in said cause, in said United States Circuit Court, in and for the Southern District of Ohio, "*and through and by means of the testimony of the said Asa Whitney given therein, and the production of transcripts of his, said Whitney's, books of account, the fact of the receipt by the said Whitney of the said great gains and profits, and of the fraud and suppression practised by him in the matter of his said application for extension, became known for the first time to your orator.*"

That said cause—the Ohio suit—is still pending, and said Whitney is still prosecuting, and threatens and intends to continue the prosecution thereof, "thereby subjecting your orator to great damage and expense in and about the defence thereof."

12th. That, by reason of the said fraud and deceit on the part of said Whitney, his said Letters Patent, as extended, and the granting and allowance of said extension by the said Commissioner of Patents, "was, and is, null and void, and conferred no right or monopoly upon said Whitney as against the public or your orator, and that in equity and good conscience the said Letters Patent should be pronounced and decreed as no longer in force or operative from and after the 25th day of April, 1862, that being the limitation of the term of fourteen years, for which said Letters Patent were originally granted."

13th. That said fraudulent acts of said Whitney, in the matter of the

procuration by him of said extension, do not appear on the face of said Patent or certificate, nor in the said proceedings in the matter of said application for extension, and is only ascertainable *dehors* said grant and proceedings.

14th. "That your orator cannot set up said fraud of the said Whitney in the matter of his said application for extension, and the consequent invalidity of said Letters Patent as extended, by way of defence to said suit so being prosecuted by said Whitney against your orator; that, as your orator is informed, the said, the Circuit Court of the United States for the Southern District of Ohio, has not power or jurisdiction to entertain or inquire into said fraud in said cause or otherwise, or to afford any relief to your orator in the premises."

15th. The prayer of the Bill is, that Whitney may be enjoined from the further prosecution of said Ohio suit; that it may be decreed that his said Letters Patent were and are null and void, from and after the 25th day of April, 1862; that the certificate and allowance of the extension thereof was fraudulently procured, and that the same consequently was void; that his, Whitney's, attorneys, &c., may be enjoined from the further prosecution of said suit in said Circuit Court for the Southern District of Ohio, numbered on the docket of said Court 534: also prays for general relief.

EXHIBITS ANNEXED TO AND MADE PART OF THE BILL.

"A."

Letters Patent No. 5531, granted to Asa Whitney April 25, 1848, for "improvement in annealing and cooling cast-iron car wheels."

"B."

Certificate of extension endorsed on said Patent, dated April 25, 1848, extending the same for seven years from that date.

"C."

Extension statement and account of Whitney, sworn to by him before Chas. E. Pancoast, Alderman, Feb. 4, 1862.

In this statement and account he represents the only advantage of his Patent to consist in the fact that by it car wheels can be made *lighter* (averaged at 10 lbs. per wheel) than by other modes, and that such saving has been his only source of profit arising from his Patent; his account being stated thus:

Cost of experiments, &c.....	$52 970 31
Profits—saving of metal.....	38 346 00
Deficit.....	14 624 31

"D."

Report of First Assistant Examiner of the Patent Office, *J. W. Jayne*, dated March 17, 1862, to Hon. D. P. Holloway, Commissioner, reciting the statement and account of Whitney, and recommending the extension, on the ground of his inadequate remuneration.

Endorsement on said report of *D. P. Holloway*, Commissioner, approving and confirming same, and ordering the extension of the Patent, dated U. S. Patent Office, April 7, 1862.

"E."

Copy of Letters Patent granted to A. L. Mowry, dated May 7, 1861, for "improved mode of annealing car wheels."

To the Bill of Complaint, the Defendant, Whitney, filed his demurrer on the 6th day of June, 1870, the grounds of demurrer being:

"1st. That the said Complainant has not, by his aforesaid Bill, made any case in Equity whereon this Court can ground any decree, or give said Complainant any relief or assistance as against this Defendant.

"2d. That the matters and things set forth, alleged, complained of, and prayed for in the said Bill of Complaint, are not within the jurisdiction of this honorable Court, nor cognizable by any municipal Court of justice.

"3d. That it appears from the Complainant's own showing, in his aforesaid Bill, that the Government of the United States is a necessary party Complainant thereto; but that said Government is not made a party to said Bill, nor is said suit brought at the instance of, nor by the authority, nor with the consent of said Government.

"4th. That it appears from the Complainant's own showing in his aforesaid Bill, that the alleged cause of action in said bill set forth, did not arise or accrue, nor did any discovery by the said Complainant of the facts constituting such supposed cause of action, or of any of them, happen within six years next before the commencement of this suit, or the exhibition or filing of said Bill, or of the sueing out, or service of any process against this Defendant, concerning the said supposed cause of action.

"5th. That it appears by the Complainant's own showing in his aforesaid Bill, that the term for which the said Letters Patent in said Bill mentioned, and sought to be cancelled were granted and extended, had expired before the commencement of the suit."

The cause was heard before Judge McKennan and Mr. Justice Strong, on the Bill and demurrer thereto, and, on the 17th Oct., 1870, a decree was entered sustaining the demurrer and dismissing the Bill, from which decree an appeal was prayed by the Complainant, and allowed by the Court.

STATEMENT OF ERRORS OF THE CIRCUIT COURT.

1. The Court erred in sustaining the demurrer of the Defendant—appellee—and dismissing the Complainant's Bill.

2. The Court erred in not declaring and decreeing the Letters Patent granted to said Asa Whitney, as extended, to have been null and void, from and after the date of such extension, to wit: April 25, 1826, by reason of such

extension having been procured by fraud on the part of him, said Whitney.

3. The Court erred in not granting and decreeing to the Complainant—appellant—therelief, as prayed in his said Bill.

POINTS ON BEHALF OF THE APPELLANT.

1. The laws of Congress, in force at the time of the application by Whitney for an extension of his Patent, governing such proceedings, required that he should, in connection with such application, "*furnish to the Commissioner of Patents a statement in writing, under oath, of the ascertained value of the invention, and of his receipts and expenditures sufficiently in detail to exhibit a true and faithful account of loss and profit, in any manner accruing to him from and by reason of said invention.*"

Patent Laws, Act of 1836, Sec. 18.
Patent Laws, Act of 1848, Sec. 1.

2. The Bill charging, and the demurrer confessing, that the extension was procured by fraud, the extended Patent must be regarded as void, *ab initio*, and as conferring no monopoly upon the patentee as against the public or the Complainant.

3. Notwithstanding the expiration by limitation of Whitney's Patent, prior to the filing of the Bill, the extended Patent, until declared void for fraud, was, and is, alive and in effect for all purposes of suit for infringements of it that occurred during its existence.

Nevins vs. *Johnson*, 3d Blatchford, 80.
Patent Laws, Act of 1870, Sec. 55.

4. By reason of the fact that Whitney's Patent had expired prior to the filing of the Complainant's Bill, the Government of the United States was neither a necessary nor a proper party to the Bill; and, by reason of such expiration, the Bill could not have been maintained in the name of the Government, it having no interest in the subject-matter of the controversy.

Bourne vs. *Goodyear*, 9 Wallace, 811.

5. The Complainant—appellant—Mowry, as appears on the face of his Bill, has a direct and personal interest in the subject-matter of the suit; he is sued by Whitney for an alleged infringement of said Patent, in the United States Circuit Court for the Southern District of Ohio; he cannot avail himself of the fraud of the patentee as matter of defence to the suit in that Court, and in that cause; he is without remedy save in the Court, and according to the manner in which he has sought it by this proceeding.

Rubber Company vs. *Goodyear*, 9 Wallace, 788.
Wood vs. *Williams*, 1 Gilpin, 517 (1 Robb Pat. Cases, 717.)

6. The extension of the Patent having been, confessedly, fraudulently procured, and the Government not being able to maintain a suit in relation to the Patent by reason of its expiration, and having no further interest in it, the suit could only be, and was properly brought by one who had a continuing interest in the Patent, and whose rights were, notwithstanding its expiration, affected by it.

7. While the Circuit Court for the Eastern District of Pennsylvania, had no power to direct or control the proceedings of the Circuit Court for the Southern District of Ohio, it did have jurisdiction over the Defendant, Whitney, together with full power to enjoin and restrain him from prosecuting a suit in the other Court, where, as shown on the face of the Bill in this cause, the suit which he was sought to be enjoined from prosecuting was founded on an instrument fraudulently procured, and the prosecution of the suit upon it was contrary to equity and good conscience.

The jurisdiction of the Circuit Court for the Eastern District of Pennsylvania being confirmed, because:

1. The Court in Ohio had not jurisdiction to entertain as matter of defence to the suit being prosecuted there by Whitney, the question of fraud in the extension.

2. Whitney, being a resident of Philadelphia, could be proceeded against only in the Court to whose process he was amenable, to wit: the Circuit Court for the Eastern District of Pennsylvania.

Rubber Company vs. *Goodyear*, 9 Wallace, 788.
Daniel's Chancery (3d American Ed.), 2 Vol., p. 1725.
Dehon vs. *Foster*, 4 Allen, 550.
Briggs vs. *French*, 1 Sumner, 504.
Massie vs. *Watts*, 6 Crauch, 158.
Carron Iron Co. vs. *Maclaren*, 5 H. H. Cas., 416–445.

8. The primary object of the suit is, that the Complainant may be relieved from a prosecution which is contrary to equity and good conscience, and the Court is asked to find and declare, that, the Patent having been procured

fraudulently, was *ipso facto* void, as antecedent to granting the relief prayed for.

9. The Circuit Court for the Eastern District of Pennsylvania, having jurisdiction of the subject-matter of the Bill, and also of the Defendant, appellee, should have pronounced and decreed the said Letters Patent, as extended, to be void, *ab initio,* to the end that the appellant, Defendant in said suit in Ohio, might set up, by way of supplemental answer, or Bill, in said suit in Ohio, such decree, as matter avoiding the claim of said Whitney in said suit in Ohio.

CHAS. B. COLLIER,
OF COUNSEL FOR
ALBERT L. MOWRY,
Appellant.

IN THE

SUPREME COURT OF THE UNITED STATES,

No. [redacted]. 147

ALBERT L. MOWRY,

APPELLANT,

vs.

ASA WHITNEY.

BRIEF AND POINTS

In support of the Demurrer of ASA WHITNEY, Respondent.

SUPREME COURT OF THE UNITED STATES.

ALBERT L. MOWRY, *Appellant*,
vs.
ASA WHITNEY.

No. ~~348.~~ 147

BRIEF AND POINTS,

IN SUPPORT OF THE DEMURRER OF ASA WHITNEY, *Respondent.*

The appeal is from the Circuit Court of the United States for the Eastern District of Pennsylvania, where the appellant filed his Bill, April 7, 1870, and the respondent demurred thereto.

The Bill sets forth:

I. The grant to the respondent "in due form of law," under date of April 25, 1848, of Letters Patent for a "process for prolonging the time of cooling, in connection with annealing cast-iron railroad car wheels."

II. The extension of said Letters Patent "in due form of law," for seven years from and after April 25, 1862.

III. That in the matter of his application for said extension, the respondent did not comply with the requirements of the Acts of Congress in such case made and provided, but procured such extension by means of fraud and deceit practised by him therein, on the Commissioner of Patents and on the Government of the United States.

IV. Specific charges of the alleged fraud in certain matters, or in a certain manner of account or statement of the patentee's receipts and expenditures, as submitted by him to the Commissioner of Patents on said application for extension.

V. That the patentee ought to have submitted said account on a different basis, which is set forth.

VI. That said extension was contrary to the public interest and ought not to have been granted, and would not have been granted had not the Commissioner of Patents been misled, defrauded, and deceived by the alleged suppressions and concealment of said patentee in his application.

VII. The grant to the appellant "in due form of law," under date of May 7, 1861, of Letters Patent for "a new and improved mode of annealing car wheels."

VIII. That subsequent to May 7, in the year 1861, the appellant engaged in the manufacture and annealing of car wheels, pursuant to and in accordance with his (appellant's) said Letters Patent, at Cincinnati, Ohio, in full faith that he was protected in such manufacture by his said Letters Patent, and did not thereby infringe upon the rights of any one.

IX. That in March, 1866, the respondent commenced a suit in the Circuit Court of the United States for the Southern District of Ohio against this appellant for an infringement upon his (respondent's) Patent, dated April 25, 1848, and extended as aforesaid, in the manufacture of car wheels.

X. That on the 5th day of April, 1867, an interlocutory decree was entered in said cause against the appellant, finding that the process employed by him and patented to him May 7, 1861, was an infringement upon the respondent's Patent of April 25, 1848, and enjoining and restraining the appellant from the further practice and employment of the process theretofore practiced by him, and referring the cause to a master for an account.

XI. That in the course of proceedings before the master in said cause, the alleged fraud and suppression first became known to the appellant.

XII. That said cause is (at the time this Bill was filed) still pending and undetermined in said Circuit Court for the Southern District of Ohio, and that this respondent is (then) prosecuting the same, thereby subjecting this appellant to great damage and expense in and about the defence thereof.

XIII. Submits that said Letters Patent, as extended, and the extension thereof, are null and void, and should be pronounced and decreed as no longer in force or operative, from and after the 25th of April, 1862.

XIV. That this appellant cannot set up the alleged fraud, and the alleged consequent invalidity of respondent's Patent as extended, by way of defence to the suit in Ohio.

XV. That "the Circuit Court of the United States for the "Southern District of Ohio has not power or jurisdiction to "entertain or enquire into said alleged fraud in said cause or "otherwise, or to afford any relief to the appellant in the "premises."

XVI. Prays for an injunction issuing out of the Circuit Court of the United States for the Eastern District of Pennsylvania, perpetually enjoining the respondent, his attorneys, &c., from further prosecuting the cause (then) pending in the United States Circuit Court for the Southern District of Ohio.

That said Letters granted and extended to the respondent may be declared void and of no effect from and after April 25, 1862.

And that in the meantime the respondent may be enjoined until the final hearing of this cause from proceeding further in said cause in Ohio against this appellant for the alleged infringement of said Letters Patent of respondent as extended.

The demurrer of respondent was filed June 6, 1870, and counsel for the respective parties were heard thereon October 17, 1870, and the demurrer was thereafter sustained and adjudged sufficient. (p. 44.)

I.

The appellant has not, by his said Bill, made any case in equity whereon the Court in Pennsylvania could ground any decree, or give this appellant any relief or assistance against this respondent in the proceedings in Ohio.

It appears by the Bill that the original grant of the Patent was "in due form of law," and that under this grant the Patent was valid for fourteen years from the 25th of April, 1848, or until the 25th of April, 1862.

That the appellant commenced his infringement upon respondent's Patent in May, 1861, or during that year, and before the expiration of the original term.

That the respondent had a right of action against this appellant, aside from all questions as to the extension or the extended term.

That under the adjudication of the Circuit Court for the Southern District of Ohio, this respondent was there pursuing his remedy, not only for the extended but for the original term.

That the extension was granted "in due form of law," and that all enquiry into it is beyond the jurisdiction of the Court in Ohio.

That the Circuit Court in Ohio has no power or jurisdiction to entertain or enquire into the alleged fraud *in said cause or otherwise*, or to afford any *relief in the premises.*

The Circuit Court in Pennsylvania cannot, in a collateral proceeding, entertain or enquire into a question, which is beyond the power and jurisdiction of another Circuit Court in a direct proceeding.

II.

It appears by the Bill that the matters and things set forth and alleged therein, had been adjudicated between these parties in the Circuit Court of the United States for the Southern District of Ohio (Whitney *vs.* Mowry, 3 Fisher, 157), and until that judgment is set aside or reversed, it is conclusive as to the subject matter of it, to all intents and purposes, between these parties.

The Circuit Court in Pennsylvania cannot interfere with that proceeding in Ohio without usurping the appellate jurisdiction of this Court, and collaterally nullifying what it (the Circuit Court) is prohibited from even reversing.

Voorhees *vs.* Bank of U. S., 10 Peters, 449.

Sheets vs Selden 7 Wall. 416

III.

There is no provision of law for any such proceeding as this to repeal a Patent. (Rubber Co. *vs.* Goodyear, 9 Wall., 788.) And any proceeding for that purpose must be at the instance of the Government. (Story's Eq. Pl., § 8.) Instead of this Bill being filed by the authority or with the consent of the Government, it is, on its face, filed by an adjudged infringer, against a patentee whose rights he has invaded, and whose statute remedy he now seeks to enjoin.

IV.

The demurrer admits the facts stated in the Bill only so far as they are relevant and well pleaded. (Story's Eq. Pl., §§ 452, 452b.) On the complainant's own showing, the allegations of fraud and suppressions and concealment, stated in the Bill, are refuted by the exhibits annexed thereto and making part thereof.

The Commissioner of Patents was fully and fairly apprised by the respondent, in his extension statement and account, that he had made 255,640 car wheels under his Patent, and that he had made the usual manufacturer's profit on them over and above his estimated Patent profit. (pp. 9, 11, 18—21, 21—25, 37—40.)

The account rendered by the respondent to the Commissioner of Patents in connection with his extension application, and a copy of which is annexed to the Bill, is a public document on file and of record in the United States Patent Office at Washington City, for more than eight years prior to the commencement of this suit. During all this time it has been accessible to the knowledge and inspection of this appellant. Upon recourse to these records he could have discovered what he now relies on as newly discovered evidence.

Rubber Co. *vs.* Goodyear, 9 Wall., 805.

Lord v Goddard 13 How. 198 (211)
Truly v Wanzer 5 How 141 (143)

V.

The Bill shows that the extended term of respondent's Patent expired April 24, 1869, while this proceeding was not commenced until April 7, 1870, nearly twelve months thereafter.

There is consequently no equity to support this application to set the extension aside, nor does anything remain which can be the subject of a suit.

Bourn *vs.* Goodyear, 9 Wall., 811.

Minnesota Co vs National Co. 3 Wall. 332

VI.

The grant or refusal of the injunction prayed by the Bill was a matter resting entirely in the discretion of the Circuit Court.

Sheets vs Selden 7 Wall. 416
Jones v Morehead 1 Wall 155
Clements v Moore 6 Wall 299 (315)

VII.

It is respectfully submitted that the demurrer of the respondent was rightly sustained and properly adjudged sufficient, and that the decree of the Circuit Court should be affirmed with costs.

HENRY BALDWIN, JR.,
Of Counsel for Appellee.

B R Curtis
Rob Stockton